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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 1 LOS ANGELES, CAL., FRIDAY, JULY 3, 1903 Subscription $1 a Year

In Orchard and Dairy

Notes from a car window and a visit to one of the largest stock farms of the north.

NOTES BY THE WAY.

As I noted last week the observations about San Jose, will be deferred until later when an article with cuts of one of the best packing houses there will illustrate my letter.

In passing, however, I might note that the swing of things at San Jose is most gratifying to one who wishes well for all communities of this great state. Promise is given for a fine crop of prunes. The apricots are a fair crop as to quantity and excellent as to quality. The fruit is of such size and quality, that in some cases, orchard run goes to the canner. Almonds promise a big crop and cherries are ripe and going out for the East at the rate of five cars per day, at biggest prices known for years. Not bad. But that isn't from a car window.

There are four routes from San Jose to San Francisco. By way of Southern Pacific broad guage through Niles, Hayward, etc.; narrow guage nearer the east side of the bay; by small boat up the bay, with landing at Alviso within short distance of San Jose, also by Southern Pacific broad guage west of bay through Palo Alto, San Mateo, etc. I chose the latter this time. It's a beautiful ride through the thrifty orchards and gardens of San Jose, Santa Clara which are continued on through Palo Alto, Redwood and San Mateo with here and there a field spread thickly with hay cocks, and everywhere the live oaks. The farmers seem to appreciate the beauty they add to the landscape and they are spared while the plow, cultivator and mower are crowded under them as closely as possible.

San Francisco county doesn't offer much from an agricultural stand point. So we pass at once to the ferry.

Across the bay, north and west from the city, is Marin county. Its agricultural resources are not all apparent from a car window yet a ride up on the California Northwestern has much of interest. The ferry from the foot of Market street passes the big cruiser New York, a monitor and other war vessels including a hosiptal ship and transports, leaves Goat island on the right, Alcatraz with its government prison on the left and swings around Angel island to Tiburon where the train waits for us.

Marin county is pre-eminently a dairy section. Its thousand hills are covered with contented cows grazing or lying under the live oak. An occasional orchard of cherries and other fruits are passed, but the dairyman and poultrymen are most in evidence.

MARIN COUNTY LANDSCAPE

"Its thousand hills are covered with contented cows grazing or lying under the live oaks."

The country is very hilly and the railroad is at one moment along the shore of the bay the next in the darkness of the tunnel through the mountain. On the low lands are often hay fields covered with haycocks which indicate a fair yield. Conversation with a chance seat-mate developed the fact, though, that there is much disappointment at the lack of late spring rains. The drouth has shortened the grain yield materially, but the hay will be almost a full crop.

A few miles up from Tiburon, thirteen from San Francisco, an unlucky number, on a prominent point which juts out into the bay a large number of buildings attract attention by their size and appearance. They are some distance back from the railroad. The brakeman shouts "Green Brae, change for San Quentin." I didn't want a change of that kind and knew there were no agricultural notes there so did not stop. No, when it comes to San Quentin, farmers and fruit growers are not in it.

Two or three miles farther, we pass San Rafael—beautiful San Rafael. Its the site of a magnificent hotel and the home of many San Francisco business men.

At Petaluma, Sonoma county, thirty-seven miles north from San Francisco, we step off the train and shake hands with J. A. W. Gates who is representing the Cultivator in the north end of the state. Mr. Gates had come down from the north with good news as to the reception the Cultivator is receiving in the north. Hundreds of new subscribers and all pleased with the Cultivator. I sometimes wonder if the Southern California subscribers six or seven hundred miles from here know how the Cultivator is growing and entering new fields not only in these coast counties of Marin, Sonoma, Mendocino and Humboldt but over the great valley of Sacramento, in Placer, Sutter, Butte, Tehama and on up.

But again I am digressing. But instead of more car window views let us now take a buggy and get in closer touch with the farmer.

A drive of six or seven miles brings us to the live oak ranch of Frank Meacham. A stock ranch on which thorough bred stock is the pride of the owner. Five thousand acres of beautiful, rich land in the ranch. Some of it semi- moist valley land but the larger portion in the rolling hills. The hills are low with good feed to their summits. The feed is largely the na-

UPPER END OF SONOMA VALLEY.

(Continued on page 4)

CALIFORNIA CULTIVATOR

ESTABLISHED 1889
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL.
BY CULTIVATOR PUBLISHING CO.
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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, July 3, 1903

Circulation this issue 7,900

BERRY GROWERS TO ORGANIZE.

The berry growers are the latest to see the necessity of combining to effect an organization which will aid in disposing of the large output of berries. There have been small associations, but now there is a movement to organize an exchange to include all berry growers of Southern California. Last year the lowest price to which Logan berries dropped was 5 cents. This year the price, which seems to be fixed by cannery and preserve factory, is 2½ cents. This about covers the cost of box and picking.

Besides the cost of boxes has been raised. Or rather, the $2.75 box which the grower preferred has been withdrawn from the market and a $5 one offered. So the life of the berry grower is a burden

The movement to secure relief started in Moneta about two weeks since. Committees were appointed to report to a later meeting. At this meeting, which was to be held last evening, the Gardena growers were invited to attend and the hope was to effect an organization which might be some little use this year and work out a plan which may lead to a permanent and successful organization.

Co-operation is more and more in the air, and we trust the berry growers may use it to advance their financial welfare.

A PICTURESQUE LINE.

The cuts on first page of this issue are from scenes along the California Northwestern line. It is a railway which may claim more picturesque views than one can often see over a similar stretch of road.

The road starts from Tiburon across the bay some six miles from San Francisco and runs north to Willits and passes through a rich and varied section. Along its line are some of the gardens which supply San Francisco, the largest poultry yards in the world, large stock ranches and the lumber camp.

It passes through a section great in possibilities of business or pleasure.

RAISIN GROWERS' CONTRACT.

It was the pleasure of the associate editor of the Cultivator to attend the called meeting of the California Raisin Growers' Association at Fresno last week. The meeting was made necessary by the failure of the directors to secure the signatures of the requisite number of growers to the five-year contract which a former meeting had given instructions to the directors to secure.

The existing contract which terminates this season was for three years and has been most satisfactory and so successful financially that it was supposed the five-year contract would be readily signed by seventy-five per cent. or more this year. But the natural suspicion of many of the growers coupled with some transactions of former officers made it impossible to secure more than fifty per cent. of the output.

The strongest one factor in preventing the success of the five-year contract was the Armenian growers. It seems these people have no separate organization at all, at the same time. are so closely bound together that they stand about as one man and they control twenty-five per cent. of the raisin output of the State..

After the failure of the five year contract the more loyal association people pulled for the signing of the three-year contract. The meeting, however, in order to secure as large a following as possible, decided to recommend the one-year contract. This was carried almost unanimously.

It was claimed on the floor that the five-year, or long period contracts would make possible more advantageous arrangements by the directors in that they could plan better, handle surplus fruit better and have better standing with the trade as a permanent organization than simply as one for only a year.

The yielding of the longer headed people seemed necessary to preserve the organization which has been the saving of the life of the raisin industry. This yielding is to the credit of these men and we trust will lead to a successful year and ultimately to a permanent organization.

There was an unpleasant feature at the close of the meeting. The new contract provides for a penalty of twenty per cent. from any grower who fails to live up to his agreement. This was violently opposed by one of the largest growers, but the mass of the members wished to know that all were either in or out of the association, so voted by a large majority for the twenty per cent. penalty and against an amendment reducing the penalty to five per cent.

The large grower in question then solemnly shook his finger at the audience and said "this action will cost you a cent a pound on your crop." This had the appearance of "knocking" and proves a statement recently made in these columns that "every co-operative movement has its kick-over-ative element."

It seems inborn in some men to ruin what they cannot rule. They are not big enough, broad enough nor brainy enough to force themselves to work for the good of all and in harmony with the majority.

However, we believe there are enough that are to make this a successful year for the California Raisin Growers' Association.

THE TILTON AGAIN.

The regularity with which the Tilton apricot bears its fruit has been claimed by those who have watched its past history. This year when most other varieties are shy in their bearing, proves no exception to the rule. Mr. Bairstow of Hanford writes: "I never saw the trees so heavily loaded before. Both old and young orchards are filled. The fruit is, I believe, a little smaller on account of this heavy crop."

A liberal sample of the fruit which Mr. Bairstow sends this office shows the fruit to be of fine color, the best of flavor and of fair size.

Mr. Bairstow writes that another season he will be prepared to furnish a large number of trees which are now growing thriftily.

W. H. Volck of the State University, has discovered that spray will rid almond trees of the red spider. The formula used will soon be made public.

THE PRUNE GROWERS AND CO-OPERATION.

At the regular meeting of the Farmers' Club held at San Jose last Saturday a good crowd was in attendance to hear A. R. Sprague of the California Fruit and Produce Exchange, and Geo. Andrews of the Rochdale Association discuss co-operative methods.

Mr. Sprague said he was there to consider with his hearers not the advantages of co-operation, for they were known, but what metnod is available by which they might at once proceed to gain the benefits of co-operation in the marketinag of their dried fruits.

The organization he represents, while at present interested in fresh fruit, can see economy and increased efficiency in the larger volume of business by the combination of their present line with that of dried fruits. There would be advantage for both, for the latter in the opportunity of getting in connection with an organization already doing a large and successful business.

The plan of organization is simple. It is thoroughly representative. Several local organizations for packing fruit form a central organization, to which they elect representatives from their various boards, and this allies itself with the California Fruit Exchange, to secure the outlet for its fruit to the Eastern markets, and to regulate to some extent those markets.

To be successful such an organization must be able to do business successfully from the start, to effect the sale of its products to as good advantage as any other way, and the experience of all such is that it is to better advantage. Provision must be made for growth and adjustment to conditions as they arise.

It is necessary, Mr. Sprague said, to know how much of the fruit can be controlled absolutely, but it is not necessary to have control of the whole product. It might be necessary to bargain at first for a portion of the crop only.

The commercial shippers would likely wish to join, and after a little it might be to the advantage of both parties to effect such a combination; but only when the organization of growers had shown sufficient strength to go alone, so they would be able to do their own marketing and have no discrimination against them.

In such a co-operative system the grower gets the profits in yearly dividends; and the system is more economical by far than the individual competitive one, so that the profits are much larger.

The Exchange furnishes all that the grower needs for curing and packing, such as boxes, labels, sulphur, etc., at current prices, and turns back the profits at the end of the year. The commission charges for sales, including all the work of agents and brokers, is the same as that of the commercial packers, 5 per cent, but the excess of this over actual cost is included in the yearly dividend.

Every co-operator helps every other co-operator. And we have to look to co-operation more than ever to solve the tremendous questions before us these days.

The handling of the fruit in the East is accomplished by a few tested, capable agents on salary, having a sufficient number of trustworthy brokers subordinate to them to solicit orders and place the fruit. Most of the fruit is sold by samples, before any of it leaves the growers' warehouses. The salesmen are under bonds and the Exchange has not had a single boss.

It is not thought best to pool all the fruit on grades. If one grower or one local exchange wants to get out a better grade, let this be done, and let the fruit sell on its merits. This tends to avoid the shipping of so much poor fruit, and to eliminate unjust discrimination.

The fundamental basis of all co-operation is fairness, justice, and in my experience of many years I have generally found the average man disposed to be fair. We need just to sacrifice non-essentials for the sake of harmony."

After general discussion by Messrs. Sanders, McGehee, Rucker, Childs, Pettit, Stevens, Babb and others, a motion was unanimously carried requesting the president of the club to see the presidents of the various co-operative fruit exchanges throughout the valley that all might join in one meeting to discuss the advisability of joining in a co-operative marketing movement.

LEFFINGWELL'S BRAND.

C. W. Leffingwell of Whittier is one of those thorough going men who believe in testing every new method which shows merit. The Teague tent system of lemon curing appealed to him, hence a thorough test of its merits.

Mr. Leffingwell has a large lemon ranch at Whittier, from which a magnificent stock of lemons may always be forwarded.

This week this office is in receipt of a sample of those lemons, apparently taken from the regular shipping stock. In flavor and texture they are excellent.

Regarding this stock Mr. Leffingwell writes:

Editor Cultivator, Los Angeles, Cal.,

Dear Sir: I am sending you today by express, a small box of lemons which I believe will prove of special interest to you, as showing how winter lemons can be kept by the new method of curing, called the Teague method. These lemons come from a carload lot which we put up in our house late last November. This fruit stood practically untouched from the time it was stored away until last week, when we graded and shipped the car. By actual count, this carload after standing about seven months, showed less than one-fifth of one per cent decay, and the fruit is of such quality today, that I would not hesitate to ship it to any market in the United States without ice. We kept this car, besides several picked in December which we are still storing, in order to make a thorough test of the merits of this new method. Knowing what I do of the uniformly good keeping qualities of the November, December and January clips of California lemons, I do not hesitate to say that every good lemon in the state picked during these months can be kept and sold in good condition during June and July.

We have furthermore been able, by the perfect control over ventilation made possible by this new system, to overcome to some extent the excessive moisture and sappiness which is characteristic of California lemons in the spring, so that we have been able this year to ship February and March lemons in May and June with practically no shrinkage. In fact, we had one car of such fruit held up by the recent floods and on the road thirty two days under ventilation, which showed only 10 per cent decay when sold.

C. W. Leffingwell, Jr.

COMPOST.

Regarding fertilizer, A. J. Drothzen in charge of the Valentine Peyton ranch at Highlands writes his preference for the economical plan of a compost heap in which weeds, leaves, cleanings from horse, cow and sheep barns are put in layers with peat and the whole rotted down. There can be no question, this would make an excellent dressing for any orchard. His suggestion is that it should be deeply plowed in. This is the plan usually followed.

His further suggestion that nitrate of soda or sulphate of amonia could be added to such compost heaps, we think not good. It would be needless and might prove great loss of expensive material. Besides rotted manure from well fed animals has a large content of the nitrogen in much cheaper form than that in the chemical mentioned.

In any case, the use of nitrate of soda should be direct on the ground at the time when tree is growing and ready to make immediate use of it. The application should not be followed at once by heavy irrigation or much of it may then be lost.

SEASIDE INSTITUTE.

A great program is promised for the Seaside Institute to be held at Long Beach July 27 to August 1. Every farmer or fruit grower who can plan his outing at that time will find a feast that will give inspiration for the coming year.

There are institutes and institutes, but this is to be the institute of institutes. A detailed program will be given in the Cultivator as soon as arranged.

Coast News and Notes

By R. A. Dague, 1045 Regent St., Alameda

The government reports show that our crop of cereals for a single year amounts to 90,000,000 tons.

S. W. Wadhans, of Monroe county, N. Y., says he has found that coal tar applied to peach trees is a sure cure for borers.

The recent floods in Ohio damaged property to the value of more than $50,000,000 and in Missouri to the amount of $100,000,000.

Uncle Sam is now engaged in distributing in California and elsewhere 1,750,000,000 baby fishes to be put in the lakes and streams.

Great consternation prevails among the farmers of Montana owing to the appearance of great clouds of grasshoppers. It is feared they may overrun the state.

The Hoytt Tree Prop factory at Watsonville was destroyed by fire last week. Loss about $2500. The coming big crop of oranges will doubtless compell an early rebuilding.

On account of the failure of the prune crop in France their commission men are sending letters to various firms of California with a view to buying largely here.

S. B. Wright of Santa Rosa, last week sold and shipped to E. D. King, of Burlington, Kansas, a valuable Berkshire boar. He weighed 462 pounds and is a fine animal.

Captain Lambsin of the U. S. Fish hatchery at Baird, on the McCloud river, has this season made a catch of more than fifty million salmon eggs. This largely exceeds the catch of last year.

The Oxnard sugar factory began operations the 25th of June. A good crop of beets from 1900 acres will be handled. This is a larger crop than was ever raised before in Ventura county.

Ireland was stocked by potato seed from California and no longer does Patrick order "Irish potatoes," but at the restaurant says: "Give me some mutton chops and mashed Californias, please."

Fresh fruit at this writing is coming on rapidly. About 40 car-loads per day now goes to the eastern market. Apricots, plums and peaches are now going forward. Cherries are about exhausted.

The weekly public sale of the Santa Rosa Poultry Association resulted at the last one in the disposal of fifty-one cases of eggs. The entire lot was sold to Geo. F. King, of San Francisco, at 20½ cents per dozen.

The announcement that Prof. E. J. Wickson will, during the summer school at Berkeley, give practical lessons on best methods of raising flowers, has attracted considerable attention and professional gardners and others will avail themselves of this opportunity.

On the 26th ult., twenty-seven yearling thoroughbred colts from the A. B. Spreckels' Napa stock farm were sent to the Dexter Park sales ring at Chicago. They are very fine colts and will bring fancy prices. Last year a like lot of yearlings from this stock farm sold for big figures.

The wool sale at Ukiah, last week, amounted to 900 bags and the prices ranged from 19½ to 20½ cents. Heretofore many sheep were raised in the vicinity of Ukiah. It was stated at this sale that many ranchers are giving up sheep raising and turning their attention to cattle.

Prof. W. A. Volck, of the State University, has for the past six months been in the hop fields of California, studying the little red spider so destructive to hop vines. He has found that the insect makes its winter quarters among the morning glory plants. He accordingly advises the destruction of this flowering vine.

The assessor's returns for the past year shows the total acreage of grape vines in the state to be 230,675 acres, of which 118,209 are in wine grapes and 89,792 in raisin grapes and the remainder in table fruit. The total increase of acreage over a year ago is 3,494 in Northern California and 6,807 acres in Southern California.

The newest device employed by the University scientists, C. W. Woodworth and Warren T. Clarke, in their campaign against the codling moth in the Pajaro valley, consists of a vat of water over which is suspended a lantern. A film of kerosene oil is put in the vats and the moths being blinded by the light fall into the vats and are killed.

A new government law went into effect July 1st which will operate to the benefit of our fruit growers and wine manufacturers. Under this law the Secretary of the Treasury is authorized to break open all original packages of wines or fruit packages from foreign countries and give samples to the Agricultural Department for analysis so they may be excluded if found adulterated or impure.

Were it not for the necessary thinning of sugar beets the raising of them would be more profitable. The best seed has as many eyes as a potato, hence the necessity of thinning. The Agricultural Department of the U. S. is trying to overcome this trouble. Scientists are endeavoring to produce a one-eyed beet seed so there will be but one plant grow from it, making thinning unnecessary.

Jas. P. Brown, secretary of the Arborculture of the U. S., says the storms of the Mississippi valley are due to the scarcity of timber. Still he says the people of the United States ar deforesting 25,000 acres a day, or 9,000,000 per year. Mr. Brown asserts that the people of the United States have destroyed more timber in sixty years than have the Chinamen in the last three thousand years.

An observing Californian says there are fortunes awaiting the men who manufacture cement in this state. Here we have enormous quantities of the necessary ingredients. Heretofore the lack of fuel prevented its manufacture. The discovery of oil has supplied this deficiency. Last year 26,000,000 barrels of cement were marketed in the United States and Canada and very little of it was made in California, although we are better equipped for the business than any other state.

The co-operative cannery at Healdsburg has begun operations. The plan on which it was organized is as follows: Fruit growers bring in their fruit and deliver it to the directors who are chosen from among the growers. The grower so delivering fruit gives his note to the directors for the amount of expense of canning. When the canned fruit is sold the proceeds will be divided and expense deducted and notes returned to growers. The notes are used for security, for money borrowed at the bank to pay current expenses.

Prof. C. W. Woodworth, professor of entomology at the State University, is now trying an experiment that cannot fail to interest all. Last year he received a large number of eggs of silkworms from China. They are now hatching out. He is feeding them on lettuce instead of mulberry leaves. The professor says he has ascertained that lettuce contains all the properties of the mulberry leaf and he is convinced the insect will thrive on the plant. There would be also the advantage that the worms could feed themselves on lettuce, while mulberry leaves have to be gathered and fed to them.

From reliable sources the Cultivator representative here is informed that at this writing there is a big stock of hold-over peaches in California warehouses, worth from four to six cents. There is also a pretty large stock of hold-over apples. Walnuts and almonds are well cleaned up. Seven to eight cents are now demanded for future apricots. Future peaches, it is thought, will range from four to five cents and prunes from two and one-half to three cents. Walnuts from eleven to thirteen cents; apples will be about five cents and pears from five to six cents. Pitted plums, four to five cent, unpitted, one cent.

From A Business Standpoint

By J. W. Jeffrey, Los Angeles

BUSINESS FROM THREE STANDPOINTS.

The citrus fruit growing industry of California presents the three phases of the fruit business more distinctly than any other line of the general industry—i. e., growing, preparing and selling the products of the orchard. In orange and lemon growing these three departments are almost entirely separated, each now representing a distinct field of operation and governed by different conditions throughout.

It may be profitable to discuss these features and see how the economics affect each, from which we may draw some valuable conclusions. The marketing of the fruit is admitedly the most complex of the three, for it not only involves the vicissitudes of transportation, which are imemnse in handling perishable products in large quantities, but it involves the distribution of the fruit and the sale of it—two propositions that may well draw upon the genius of the sellers for correct solution. In the successful prosecution of all these departments the same economic principles prevail. But these principles are controlled by circumstances widely different in character. The grower has control of the influences that tend to the best production of crops, and through co-operative representation he can control the preparation of the crops in his local packing house. It is the second and third propositions that defy individual effort, and it is to these we wish to address a few words for consideration.

It is reported that a considerable acreage at Highlands is organizing to adopt means of marketing independent of the California Fruit Agency. These independent growers propose to build a new packing house and blow in a lot of money in what is likely to prove a disastrous experiment. In the first place experience has proven that no one is independent of his fellow fruit growers, the very complexity of the marketing problem as a whole making individual action disastrous. In the preparation of citrus fruit for the market, the business has reached the point where absolute economy must be observed. Too many packing houses have already been built in the failure to recognize that in this age the laws of competition are more necessary of observance than ever, and that every item of expense must be reduced to the lowest point in order to succeed. In so far as the independent institutions with limited acreage fail to pack their fruit at a cost at or below the average houses, they are handicapped before their fruit is started on its way to market.

The shippers who were outside the Exchange through the requirements of competition for patronage of the growers, were compelled to build and equip packing houses far beyond the commercial requirements of each district. Riverside, Redlands and Covina are examples of this wonderful waste of capital in the construction of unnecessary packing houses, and the result was the inevitable closing of those which were not required in the economic work of preparing the fruit for market. This over-capitalization of the preparatory facilities was one great element that led to the consolidation of the outside shippers into an organization known as the California Citrus Union, in order that fruit could be packed at the lowest possible cost. Do the independent shippers think they can succeed upon lines that have been vainly tried by men equipped with experience and capital in unlimited quantities? Ultimately purely economic influences must prevail, and the grower has already gained largely by the elimination of a large number of packing houses, for it was he who paid the expenses of maintaining every house not necessary to the business. The Highlands independents claim they can pack their fruit and sell it cheaper than the 39 cents charged by the Citrus Union.

As to the selling, that will be considered in the next paragraph. But it may be remarked in regard to packing expenses that some of the most successful associations in the Exchange do their packing by contract. This would indicate that the margin is very small between contract packing and doing it by the association themselves. However, experience will show that roseate calculations often fail to materialize, and that the small, independent association will find many lions in its way toward realization.

But it is to the third phase of the business—the marketing problem—that the growers should direct their special investigation before launching into the troubled waters of fruit selling upon an independent basis. Here co-operative effort is supreme. The orchardist may hire his packing done, for it is a simple problem and under his own eye and control. He can also hire a commission man to sell his fruit, as he will have to do, no doubt, acting in an independent organization. Did he ever see a commission man in action or attempt to control the fruit after the commission man had secured control of it? Orcharding is crowded with the graves of defunct enterprises, put to their last quietus by the commission system. Fruit may be grown and packed under the control of the owner, but sold, never unless the grower organizes and sustains his own agency. In this latter achievement the same economic principles prevail that are found in producing and preparing the fruit, with the difference only in the fact that the complications that beset the markets are largely beyond the influence of the individual grower or association. An agency capable of holding its own in the markets must be strong enough to cope with the fruit trade combinations and chicanes of the business; it must have the amount of business to justify the maintenance of a selling agency covering the entire field and directed by men capable of grasping the situation in whatever phase it may be presented; it must direct the enormous capital invested in the citrus fruit business through accredited representatives and have the power only attainable through co-operation in order to meet the exigencies of this commercial problem involving refrigeration, transportation, distribution, competition with other fruits and the opposition of the commission merchants who are organized as one man. A few growers expecting to do an independent business should stand appalled before these conditions, for they are not able to organize an agency of respectable proportions, and consequently must depend upon the commission merchants to do the business for them. The California Fruit Agency has already put out of the business about 700 intermediaries, who were found necessary under the plan of selling one year ago. Now the independents propose to re-employ some of these unnecessary factors, either as direct agents or as commission merchants. There is no business sense in this and the experimentors will rue the day they try to restore a system of selling competition with other growers' organizations—a system altogether bad, as the growth of the Agency will declare.

Dr. Shaw, of the University, after careful study of the subject says the sugar beet industry should be a leading one in California. In a region from San Francisco to San Bernardino 60,000 acres are devoted to beets which produce annually a value of $10,000,000. These figures show that the value from the product equals that derived from the prune crop or from the sale of butter. It more than doubles the value of the potato crop and surpasses the raisin crop by $1,000,000, and the bean crop by $2,000,000. Exclusive of the land owned by the various companies the capital invested in the factories will aggregate approximately $12,000,000.

A new industry is growing at San Jose in the use of the kernels of apricot pits. Last year 1500 tons of kernels were extracted from the pits and shipped to Europe and made into oil which is used in the manufacture of fine soaps and confectionery. Seven dollars per ton was paid to growers last year and that price will be exceeded this. A pit cracker has been patented by the use of which the work will be done cheaper and quicker.

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Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in casethe species are harmful. Insects should be put in close, strong boxes. They need no airother than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

ANTS AND CUT WORM MOTH.

Reader, Arroyo Grande, sends some insects and wishes to know their names and habits. There are two specimens in the box, one of the common cut worm moth, parent of the caterpillars which have been so destructive the past season. These moths lay eggs, as I have previously stated, and from these come forth, as they hatch tiny caterpillars with sixteen legs. These grow rapidly, eat ravenously, and change to moths again early next summer. These have done exceeding damage this summer. Thousands of dollars would not make up for the loss caused by them in the alfalfa fields about Pomona. The strong probability is that it will be several years before we shall have them in destructive numbers again.

The other insects are queens and males of one of our common ants. As all know, ants burrow in the ground and in these tunnels they make their home. They carry in seed, etc., for food, and often are found in great numbers in a single colony. At this season of the year there will be found the old queen with no wings, as her wings have been bitten off, a great many wingless workers of small size and a large number of males. About this time these young males and the queens, the only ones that have wings, come forth from their underground home and fly forth in great numbers for the purpose of mating. It is probable that "Reader" saw one of these nuptial flights and thus secured the ants which he sent. All ants have a peculiar hump on the peduncle of their abdomen. This will tell the ant group from all other insects. After mating the males die. The queen is taken by some workers, conducted to some underground home, her wings bitten off so that she cannot go forth into the world again, when she becomes the mother of another growing colony. For the most part, ants do very little damage. Except for annoyance in the house or on lawns I have never known them to do any damage. Some of my good friends, however, think that where their tunnels are near trees, they do considerable damage in the orchards.

* * *

RASPBERRY BLIGHT.

Mr. True, Lordsburg, brings me raspberry twigs that are dying for some reason. He says it is quite serious about their place. I have received many such samples this summer. It seems to me there must be something that troubles their roots. I have made suggestions several times that people examine closely the roots of their plants in all such cases of blight. Fuller's rose beetle in the grub state might possibly be the cause of the mischief. Again, plant lice are often the cause of such decline in vegetation. It has recently been shown by the valuable researches of the entomologists of our state university that the peach aphis, early in the season, goes to the roots, where it is likely to do much more damage than it does to the foliage. I remarked in an article a short time since that enemies of the plant lice were often the cause, I think I may say generally the cause of their disappearance in early summer. In some cases it may be that they simply go underground and have not ceased to exist but have simply passed out of sight. It only remains to be said that it is very difficult to destroy plant lice, or indeed any insect that works underground, destroying the roots of plants. The bisulphide of carbon and strong tobacco decoction have been a decided success in combatting some forms of these underground pests.

* * *

DESTROYING SQUIRRELS.

S. F. Pencier, Sierra Madre, asks about the method of destroying squirrels by the use of bisulphide of carbon. The principle of this lies in the fact that this liquid is very volatile and the vapors are very destructive to life. Therefore, when insects, or even higher animals are confined in an atmosphere loaded with the vapor of this poison the animals are quickly killed. To kill squirrels we pour an ounce or more in the hole, depending on the size of the latter, stop up all openings with clay and then hope that we will succeed. This does not work well except in a wet time as unless the ground is water soaked it permits the vapor fumes to pass off so quickly that the animals are not destroyed. Of course if we are not successful in finding all the holes and stopping them up we cannot hope to succeed. I believe destroying squirrels by means of poisoned grain is usually more satisfactory than by bisulphide of carbon.

* * *

DISEASED LEMON FOLIAGE.

F. Coulter, Fullerton, sends me lemon leaves which are seriously blighted. He asks for cause and remedy. The blight was defined in sharp limits to certain parts of the leaves. I had seen nothing like it before, and so sent it to Prof. N. B. Pierce. He pronounces it a local form of gumosis, from which the epidermal cells are destroyed. He thinks the cause is local. It sometimes comes from soil, water and especially from heat. It is probable that no serious consequences need be expected. Prof. Pierce also sends me for identification some pupae and imagos of moths received from Orange. These are the common Peridroma saucia which have been so destructive the past year.

* * *

DISEASED APRICOTS.

It will be remembered that I referred in a recent Cultivator to diseased apricots received from a canyon orchard near Santa Paula. I sent a few to Prof. Pierce. He tells me that the disease is not uncommon in California. It has been in the state for many years. It is caused by one of the "shot-hole" fungi, a species of Phylesticta, probably P. circumscissa. Prof. Pierce further states that injury may be prevented to a large extent by the winter use of Bordeaux mixture, though in severe cases summer treatment may also be needed.

* * *

GYPSUM FOR ALKALI.

C. F. B., Thermal, Calif., is anxious about alkali. He says that it comes to the top on his place and destroys the young plants just at the time of germination. He wishes to know if gypsum would be a remedy, and asks where the material could be secured, of good strength and at reasonable cost.

As I have frequently stated, alkali as we usualy consider it consists of three salts, carbonate of soda, or black alkali, which is the worst, sulphate of soda, or white alkali, which is the least injurious, and common salt or chloride of sodium. This latter is not so bad as black alkali but when in too great abundance is bad enough. As is well known, gypsum does help black alkali soil. It changes the black alkali into the less destructive white alkali. As I understand, the soils about Thermal are poisoned, not by black alkali, but by common salt. Therefore I believe that the use of gypsum would be entirely powerless to do good. I believe it would be money thrown away. The best way is to purchase land in which the salt has been washed out. In case a part of the farm has a superabundance of this common salt the best remedy will be to wash it out by ample irrigation with good under drainage. We must not forget that this under drainage must be perfect or else we make a bad matter worse with too liberal use of water.

* * *

A B C OF INSECTS CONTINUED.

In last week's Cultivator I commenced a series of articles on practical entomology. I closed with a short reference to mites and the collossal forms of ticks. In this article I wish to continue the discussion of these very interesting animals. It will not do to call them insects because they belong to the great spider and not to the insect class. When mature they always have eight legs, while all true insects have but six. These mites and ticks are very varied in their habits. We know that the red mite, the clovee mite and the silver mite are very destructive to our fruits and vegetables. Many mites work on household products. Many a lady has sent me flour with the question, "What is the matter with my flour? It is altogether too lively to suit me. I am quite content when it is in the bread pan to see it rise but I strongly object to seeing it walk off." The cause of this perturbation is the multitude of these mites, known as flour mites. The itch mite of the olden time worked in the angle between the fingers, and often persisted so long that it was called the seven-year itch. A long slim mite worked in the forehead and other parts of the face, mostly of girls, causing pimples and thus often marring the fair face of beauty. While the itch mite has largely disappeared, the pimple or face mite is still quite common even in civilized countries. A gall mite, known as Phytotus, works even in California on walnut leaves and on the pear. This is also a long slim mite like the face pimple mite, but instead of the eight legs, it has only four, and so is an exception to all other mites. It is exceedingly minute, and so the microscopist does not easily find it. The whitish blotches on the under side of walnut leaves and the corresponding raised surface on the upper side is caused by these Phytotus mites. I do not think that these mites do very great damage as I have seen them very abundant on the leaves and yet the trees seem in good vigor and the production of fruit did not seem to diminish.

The silver mite which attacks citrus fruit, and the lemon more largely than the orange, is quite serious in some sections, especially about San Diego. It discolors the fruit and so does a good deal of damage. I do not know positively of any good remedy, but as we know that the distillate spray is quite effective against the red mite (red spider) I should certainly hope that it would help us to fight successfully the silver mites. I would be glad to hear from any who have been successful in meeting this foe of the citrus fruits.

The most common and most justly dreaded of any of these mties is the red mite, which has become so grievous a pest in our orchards. These suck the juice from foliage and fruit and thus weaken the trees often to such an extent that the fruit is likely to drop in such large proportions as to produce serious loss. The vigor of the tree is also seriously impaired. These mites reproduce so rapidly that they justly cause no little alarm. Fortunately the distillate spray has been found a quite efficient remedy. It is probable that these mites find our dry seasons and dry weather very favorable to their work.

Another little mite, Bryobia pratensis, works on nearly all our plants and often multiplies in such numbers that they often swarm forth and enter our houses. It is known as the clover mite. They often come in upon us in such overwhelming numbers that the little specks are seen crawling over everything. I have heard of these raids in several places. Small as the mites are, people whose houses are invaded are greatly disturbed when the mites come in such numbers as to take the whole premises by force. One of our Claremont neighbors had such an invasion two or three years since. I have always advised the keeping off of the invasion by the use of kerosene oil. Cloths wet in this are so placed as to prevent ingress.

As before stated, the Texas tick is a collossal mite. It is quite a serious pest in itself, disturbing the horses and cattle on which it feeds not a little. The animals of Texas and contiguous states are used to it and so are not overcome or very greatly injured. Introduced onto other horses and cattle it often becomes an alarming pest. I actually knew of fine horses killed in Michigan by these ticks. But the great damage from these ticks comes in their great spread of the germs of Texas fever. A minute animal, a little Sporozoon, is the case of this fatal disease. It increases with astounding rapidity and lives upon the red blood corpuscles which it destroys. Young calves can have the trobule with no serious results, while older cattle once infected with these animal germs are almost sure to die. The cattle of Texas and other infected regions have the disease while young, recover from it and are ever after immune. If such cattle are taken to other regions they carry the tick. This tick carries the animal germs from the immune cattle to other cattle. These latter thus contract the disease and are almost sure to die. Thus the Texas tick is economically far more important than even the red mite.

(To be continued.)

IN DAIRY AND ORCHARD.

Continued from first page)

tive wild oats, burr clover, etc., on the hills, but in the valleys with the native grasses is the meadow soft grass introduced in this country from Europe. The local name applied is "Mesquite" some calling it "Texas Mesquite." It is not of course Mesquite at all, the botanical name is Halcus Lanatus. Prof. E. J. Wickson told me that it does not show by its analysis, great value as a feed. Mr. Meacham said that he thought a great deal of it and if fed at the right time, before it is too dry and ripe, that the stock liked it and seemed to do well on it.

In any case it adds wonderful beauty to the landscape. It grows, according ot soil and moisture, from one to four feet high. It is now in full bloom, or forming its seeds on the head, these are four inches long at the end of the long slender stems. It is not exactly a lilac shade, yet it gives the field a beautiful coloring as it waves in the wind.

Mr. Meacham took pride in showing his fine stock. He has 5000 sheep of three breeds and 150 cattle. His cattle are all of the Red Polled. Regarding the breed Mr. Meacham says: "As their name signifies, they are red in color, and abbsolutely without horns.

So strongly are they bred in these characteristics, that when crossed with other breeds and of a different color, the progeny, with rare exceptions, will be without horns and red in color. They are frequently confounded with other polled breeds, but are as distinct from them as they are from the Short Horns or Holsteins. Their dairy qualities are unexcelled; they give a heavy yield of rich milk."

At the head of his herd is Eyke Dandy purchased of V. T. Hill of Delaware, Ohio, who imported him. He is a beautiful animal as are all the cows.

One of the features of this ranch is the American Merino. The Merino is common. The American Merino is Mr. Meacham's own. The breed was started by his father, Harrison Meacham, some 30 years ago when he started to breed the horns and wrinkles from the Merino. He has succeeded completely, at least he now says "I don't have a lamb in fifty that has horns. They are better about shearing and they don't fight."

The Shropshire, the great mutton sheep is also a breed whic.. Mr. Meacham keeps. Another and later favorite is a recent importation of Rambouilett rams. The Rambouilett is a French breed, though the crack one of the flock is imported from Germany. This is "Winckelmann 159 a mammoth fellow who sheared, with ten months wool growth, thirty pounds. To appreciate that weight of wool it should be compared to the ordinary clip of about eight pounds. These sheep sometimes reach the weight of 250 to 300 pounds, have strong constitutions and are good foragers. Mr. Meacham says they will make a magnificent cross with the American Merino.

But we must not linger too long in this place though the hospitality of Mr. and Mrs. Meacham constrains us to stay.

C. B. M.

San Francisco, June 20th.

California Horticulturally...

John Isaac, Sacramento

CHERRIES FOR PROFIT.

The cherry crop of the Sacramento valley is nearly over, and it has been a very fair one, not so large as it was hoped for earlier in the season, but still a good average crop, while it has netted the grower good prices. If we may believe the statements in relation to the profit in cherry growing, made by some of the growers themselves, the deciduous fruit, or at least this branch of it, is not in such a bad way after all. The Giblin Bros., of Yuba City, have an orchard of 302 trees from which they delivered to the cannery 30 tons of fruit, for which they received 5 cents per pound. For this they received $3,000, and besides sold some at retail at 6 cents. The total expense of cultivating, picking, delivery, etc., was under $550, which left over $2,450 net from a little over three acres of land. This almost equals orange growing under the most favorable circumstances.

* * *

THE COMING PRUNE CROP.

Reports from Santa Clara valley, which section produces the largest part of the prunes shipped out of the state, are to the effect that the present season's crop will be a very poor one in regard to quantity, but of very superior quality, running to large sizes. There is always a tendency on the part of the grower to bear the market in his own interest, and predictions of short crops of fruit can generally be taken with a grain of allowance, but there is still little question but that the prune crop of Santa Clara will fall far below the normal. To compensate for this, however, the crop in most other sections will reach very nearly or quite the normal yield and the total output of the state will be fully up to the average. How we shall dispose of them is still an open question. Owing to a failure of the prune crop in France for two years, we have found there a market for a large portion of our surplus, but this is a condition which is not likely to occur again for some time, and we shall be confined to our home market for the larger part of our crop. The American people have not yet become educated to eating prunes; they are, to most of them, a sort of luxury, which they regarded as a treat when they were children, and have never yet learned to look upon them as an article of diet. With a normal crop, this state would produce 150,000,000 pounds of prunes, to which is to be added the output of Oregon and Washington. It is a strange state of affairs when producers are thankful for short crops, but, in the case of prune growers they certainly are. In the meantime there is a chance for a campaign of education, in which the American people should be taught to eat less meat, which is dear, and more prunes, which are cheap and wholesome. This means lots of judicious advertising, which the prune men can better afford than to lose a large part of their crop and sell the balance below the cost of production.

* * *

FRUIT GROWERS AND STRIKES.

A few years ago the employees of the Pullman car works had some trouble with the company, and the fruit growers of California, who had no interest in the matter whatever, and did not know what it was about, and did not care, were losers to the extent of a million dollars. Some two years ago the teamsters of San Francisco and the men who employed them had some sort of trouble, and again the fruit grower was made to suffer. In these cases the unfortunate fruit grower was innocent of offense but was punished for his innocence, and his fruit at the most critical time was left to rot on his hands because no one was allowed to handle it. It looked for a time as though this thing was to be repeated this season at the expense of the fruit growers on the Sacramento River, for just as their fruit was coming in, and the reward for their labor and outlay was at hand, the deck hands on the river boats, which handle the greater part of the fruit from this section, went on a strike. Fortunately the matter has been adjusted for the present, but there is no telling where it will break out next, but one thing is certain, the fruit grower will get the worst of it.

* * *

DECIDUOUS FRUIT SHIPMENTS.

Sacramento is now in the midst of the fruit shipping season and fresh fruit is going forward at the rate of 25 carloads daily. The recent warm weather has ripened all fruits with a rush. Apricots are coming in in great quantities, and while the crop is lighter than last year, it is remarkable in consideration that this is an off year. Last year was an apricot year and the crop was a very heavy one. According to precedent, this season should have given a very small crop, but as it is we have a very fair one. Placer is our early peach district and heavy shipments of this fruit are now being made from Auburn, Newcastle and other points in that county. Over most parts of the fruit section of northern California peaches have turned out very well and in many parts vigorous thinning has been necessary to produce marketable fruit. Shippers of deciduous fruits last season complained bitterly of losses, due largely to their fruit being so long on the road that it arrived in market in unsalcable condition. The railroads have promised to give better service this season, and the growers evidently have faith in them, as the movement of fruit so far gives promise of as heavy shipments this season as ever.

* * *

MORE FARM HELP WANTED.

The cry for more labor still goes forth from all parts of northern California. Canneries, driers, orchards, packing houses, all demand more help. The California Promotion Committee has done excellent work in their endeavor to induce desirable white labor to come to California, but the people whom they have influenced to come is as a drop in the bucket to those required. The hop yards will soon be demanding help, the fullness of the fruit harvest will soon be upon us and, with a scarcity already in the season, what will we do later on? In the hay fields, $2 and $2.50 per day and found has been paid, and it has not always been possible to get enough help at that. There is a limit to the amount the farmer can pay, and that limit is reached when it costs more to harvest a crop than it will bring, and this limit is nearly reached now in some cases. There is no question but a large per centage of the produce of our state this season, both of the farm and orchard, will be lost for lack of sufficient help to take care of it.

* * *

FRUIT GROWERS AND THE PARCELS POST.

The late Fruit Growers' Convention strongly indorsed a domestic parcels post system, and through a committee laid the same before President Roosevelt. That he considered the matter favorably is evidenced from the fact that word has since been received from his private secretary, Mr. Loeb, that the matter has been referred to the Postmaster-General. This is the next step in advance that our postal service must make, and it will be forced upon us in spite of the opposition of express companies and other interested parties. In this the United States is now far behind many other powers, and some very much inferior to us in other respects, are ahead of us in this regard. It is an absurdity that, to any part of our own country we can only send a package weighing not more than four pounds and for that have to pay at the rate of sixteen cents a pound, while we can mail a twelve-pound package all the way to New Zealand at twelve cents a pound. When we become fully aware that we are discriminating against ourselves and in favor of foreign countries in our postal system, and this for the benefit of express companies, there will be a change. This is a matter in which the fruit grower of all others is directly interested, as under a parcel post system he would be enabled to send small packages of fruit through the mails at reasonable rates and be assured that they would reach their destination in good season and in good condition. Such a system would greatly enlarge his market, and it was this view which led them at their last convention to take active steps in its favor.

* * *

LOSSES FROM DESTRUCTIVE INSECTS.

Insects are such insignificant things that, even when we know them to be injurious, we rarely comprehend the extent of damage they do and the amount of loss they cause us. Dr. H. C. McCook in an article in Harper's Weekly gives some figures in this matter that are startling to one who has never studied it. The chinch bug, he says, caused a loss of $30,000,000 in 1871, upwards of $100,000,000 in 1874 and $80,000,000 in 1877. The Rocky Mountain locust in 1874 destroyed $100,000,000 of the crops in Kansas, Missouri, Nebraska and Iowa. The cotton caterpillar causes an average loss of $15,000,000 in the southern states, while in 1868 and 1873 this loss was doubled. The grain weevil inflicts an annual loss on us of $40,000,000 and the codling moth destroys from $30,000,000 to $40,000,000 of our fruit annually. These are but a few of the destructive insects which are working in our crops, and, if it were possible to compute the damage done by all, the figures given above would appear insignificant. It is a fortunate thing that for most of our destructive insects nature has provided enemies that keep them in check, or it is doubtful whether these insignificant specks in the animal world would not drive the lord of creation himself off the earth.

Woggsy—"How do you buy your music?" Boggsy: "Like my wood, by the chord." Woggsy: "I prefer to get mine like my note paper, by the choir."

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J. W. MILLS, ONTARIO, CAL.

THINNING BRANCHES ON YOUNG APPLE TREES.

Editor Cultivator: I would like to know if thinning out this year's growth of wood in my one and two year old apple trees will injure them if done at this time of year? Also, is it too late to whitewash the trunks of trees? J. K. Mortimer, Santa Rosa.

It will not injure your trees to thin out the surplus branches on your young apple trees at this time of year. In fact we think it is the best time of year to do it. If removed now the scars will not be so great as if removed later and besides they will nearly heal over between now and the time that the trees will stop growing. If the tops are much thinned out it will be well to whitewash the branches that are left exposed. It is not too late to whitewash the trunks though it would have been better to have done it a month or more ago. Paint the scars that are over half an inch across, with hot wax or paint.

* * *

GUMMING OF CITRUS NURSERY STOCK.

We have recently had several inquiries for a remedy for gumming of small citrus trees that are in the nursery or have been recently planted. We are sorry that we cannot do more than suggest. It is presumably the same disease that causes the gum to exude from old trees. Disinfectants have proved beneficial with them and no doubt will with nursery stock. The chief difficulty here lies in the fact that nobody wants trees which have been affected with gum in the nursery. We do not know that we have a right to give a remedy unless we know that it will cure the trees permanently. Anything that will stop it and cover it up for a while only passes it on to the next man. A spot the size of a twenty-five cent piece will render a nursery tree worthless and a much smaller spot will make it a weak tree that is liable to be troubled with the disease later on in life.

For those who have young orchard trees which show gum spots, we would suggest the following treatment. Cut out the bark and wood where the gum shows and wash the place with a formaldehyde solution, using about one ounce of the article as sold in the trade, to two gallons of water. It is a powerful disinfectant, clean and agreeable to handle. Used as a spray in a room, one part to 600 of water, it will cause a stinging sensation to the eyes and nostrils, but leaves no bad effects. If the gum disease is caused by a germ, the formula above will have a tendency to stop it. It will be sure to kill all germs that come in contact with it and if it is not a germ disease the treatment will do no harm.

We have been asked what formaldehyde is made from. We have been told by chemists that it is a form of dehydrogenized alcohol, that is an alcohol with some of the hydrogen taken from it.

* * *

THE SUGAR PRUNE.

Mr. C. W. Reed of Northern California, says that the sugar prune is a great improvement over the ordinary French prune with him. That it weighs from six to ten prunes to the pound green and from 15 to 26 to the pound when dry. The fresh fruit analyzed nearly 24 per cent sugar. The trees seem to bear heavier crops as they grow older and have proved to be vigorous growers on both peach and almond roots. Mr. Reed thinks that this prune will supply the fancy and middle grade of prunes.

We wish that we could recommend it for Southern California. It has been our experience at the Pomona station that the sugar prune is absolutely worthless when grown on plum stock. It does not grow as large as the ordinary French prune, cracks open and gums. It took the grafts three years to grow four feet long. We do not know what it will do on peach and almond in Southern California, but we would discourage the idea of grafting or budding over old prune orchards to it. We are confident that it would end in failure.

* * *

BUDDING PECANS.

The United States Department of Agriculture has recently issued a bulletin describing the successful budding and transplanting of pecans. It says that the principal trouble seems to come from selecting immature buds. It is believed that the best stock comes from nuts gathered from the northern borders of the pecan belt, as they are more liable to be hardier than those grown farther south. The nuts should be kept over winter in boxes, layered in a mixture of sand and ashes. They are planted in the spring in rows running east and west so that they can be budded on the north side. The trenches for the nuts should be three feet apart and five inches deep. The bottoms of the trenches are filled about two inches deep with leaf mold and sand mixed in equal parts. The nuts are placed in them five inches apart and some dirt raked over them and on top of that is placed a mulch about one inch deep to prevent the surface from crusting.

The buds used for propagation should be selected from those grown the previous year. The best buds grow from the base of the shoots that come from axillary buds the preceding season. These dormant buds can be easily removed from the bud stick and can be handled without injury. After the union is made and the stock is cut back, these buds make a much stronger growth than buds of the current year's growth. The bud sticks are cut as needed, the current season's growth being cut off when the sticks are taken from the tree. These buds can be kept fresh several days by wrapping in a damp cloth or sack.

Budding is done by making two transverse cuts about two or three inches above the ground line and one inch apart. These are connected by a perpendicular cut through the center. The bark on each side of this cut is raised to admit the bud which is cut exactly the same length and a little over half an inch in breadth. Much care is necessary in removing the patch of bark with the bud from the scion so as not to injure it. The outer bark of the patch is shaved off so as to make a perfect fit under the two flaps. The bud is held in place with a piece of raffia and a little wax smeared over the top cut to keep the water out. The whole patch except the bud is wrapped with strips of waxed cloth so that it laps half way with each wrap. The wrapping must be started at the bottom so as to shed the rain and dew. As a precaution against the sun, a piece of paper is wrapped around the stock and tied about an inch above the bud and left open at the bottom. After the first week the paper can be removed and after fifteen days the raffia can be cut.

It is said that this method of budding the pecan gives a satisfactory union. With carefully selected buds from one year old wood and vigorous seedling stock, every section of the bark will unite. Triangular pieces of bark with the bud in the middle can be used when the stock is small but the edges of the patch must fit the incision in the stock perfectly. The apex of the triangle should point upward. A small quantity of soft wax is smeared over the lines of incision before the raffia is tied on. This method of budding is especially useful with small stock.

The buds should be started into growth as soon as possible. This is facilitated by removing the top of the seedling so that but two healthy leaves are left on the seedling stock at the base of the present season's growth. The buds that start out at the axils of the leaves should be removed at once. Within a month the scion bud will have developed several good sized leaves. If the buds are inserted before the end of June there will be time enough for the development of a good sized shoot. The scion should be tied to the stock after it has grown a few inches. The old stock should not be cut off until the beginning of the second season, when it should be smoothly cut and the stump covered with warm grafting wax.

It is not safe to transplant pecan trees that have been budded until they are three years old. It is essential that some of the roots be left entire and it is best to remove as little as possible of the roots and tops. The roots should be left uninjured at least two

1903 CATALOG
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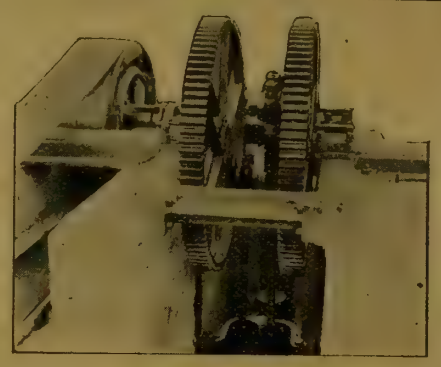

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The Step Ladder That Is An Extension Ladder
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The fruit evaporators are used where climatic conditions do not allow the sun-drying of fruit. The advantages of this building are that the fruit is under cover at all times and there is an even distribution of heat and draft in the various compartments.
We have the best equipped and most complete factory on the coast for such work, and are in a position to figure on everything complete.
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Eucalyptus Trees For Sale

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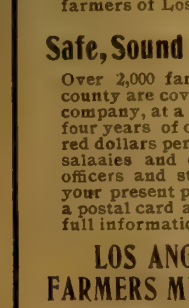

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An ideal Fruit Pickers' Ladder; For Lightness, Ease of Handling and possibility of getting right into the tree, by throwing the single leg over limbs. Every step double bolted. Sizes 6 to 12 feet. Circulars free.

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5,000 to 10,000
Citrus Trifoliata Seed Bed

Plants. Good, thrifty stock in fine condition for planting now. One year old plants. Six to ten inch at $15.00 per thousand.

ARMSTRONG NURSERIES

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California Portland Cement

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Guaranteed for Uniformity, Strength and Durability. In successfull use everywhere in Southern California for Foundation Floors, Sidewalks, Flumes, Pipes, &c.

32,000 Barrels sold in October, 1901

Let your patronage build up Southern California, not foreign countries.

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California Portland Cement Company
401-3 Trust Building, Los Angeles, Cal.

INSURANCE AT COST

We are furnishing Insurance to the farmers of Los Angeles county that is

Safe, Sound and Conservative

Over 2,000 farm buildings in this county are covered by policies in our company, at a cost, during the past four years of only 5 cents per hundred dollars per year. Why pay big salaaies and dividends to eastern officers and stockholders? Before your present policy expires drop us a postal card and we will send you full information of the mutual plan.

LOS ANGELES COUNTY
FARMERS MUTUAL FIRE ASS'N

Chartered by the State
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and a half feet long. The roots should be dipped in liquid mud as soon as taken from the ground, wrapped in wet sacks and again dipped in the mud before planting. It is essential that at least one top branch be left without removing the terminal bud, as such buds start more readily than older buds lower down on the stalk.

* * *

SUMMER PRUNING RASPBERRY BUSHES.

The Wisconsin experiment station has been making a series of experiments in pinching back the shoots as they reach different heights. The experiments covered four years and Gregg and Cuthbert were used in the trial, 36 plants of each. It was found that pinching the Gregg when 24 inches high increased the yield, but decreased the yield of the Cuthberts. Pinching back when two feet high gave better results than when cut back when one foot high. A record of the number of shoots was kept and showed that pinching back increased the number on Gregg and decreased the number on Cuthbert. Pinching back increased the size of the berries on Gregg and decreased the size of Cuthbert. When the bushes were pinched once they filled up the space between the rows as close as those which were not pinched. When pinched twice the bushes were more dense than those which were not.

The following table shows the interesting average result of the four seasons' experiments:

* * *

POTATOES AND PEANUTS.

Editor Cultivator: Will you please tell me what quantity of seed is required to plant an acre of potatoes; also an acre of peanuts?

What is the average yield per acre on light, sandy loam about 200 yards from a stream?—A. S., Pala, Cal.

When the tubers are planted one foot apart in the rows and the rows three feet apart, and whole tubers that weigh four to the pound are used, it requires 3600 pounds of seed; half tubers, half that amount and quarter tubers one-fourth that weight. The usual weight of seed pieces is about one and a half ounce. When potatoes are quartered lengthwise they give the best results. Large potatoes have fewer eyes than small ones in proportion to their weight, and this makes a difference in the amount of seed required per acre. It will vary from 300 to 1800 pounds per acre.

It takes from fifteen to thirty pounds of peanuts to plant an acre, but we cannot tell you what the yield will be on light sandy soil 200 yards from a stream. We cannot see what influence the stream would have on the crop from such a distance unless the water table is within four or five feet from the surface.

If there is a clay stratum within four or five feet from the surface and the water enters above it from the stream, your peanut crop will derive some benefit from the seepage of water. The yield of peanuts from soil adapted to their culture varies from about 500 pounds to one ton. The yield depends on the previous use of the soil. If continually cropped with peanuts, it may start at 1500 pounds and run down to 500 pounds in a few years. Peanuts are an exhaustive crop because the entire plant except a small part of the root is hauled off of the ground at harvest time and any of it is seldom returned.

The Missouri Agricultural Experiment station has isued a bulletin to counteract the reports which have been circulated that the Middle West will have no corn crop. In this bulletin it is stated that the unprecedented rains have destroyed wheat, rye, oats, and corn in many localities of the State. It is not yet too late to secure good yields of several valuable forage and grain crops. Only seventy-five per cent of the corn has so far been planted in the state. There is yet time to plant corn, and with an average season secure a fair yield of grain. Former residents of Missouri know that several years ago corn was planted in late June and July and made excellent crops. So we need not fear that we shall not have corn bread next year. Nor need we fear that all we hear about a short corn crop will come true.

CLIMATE AND CROP REPORT

WEATHER AND CROPS.

From the San Francisco station of the weather bureau the general summary for California furnished by G. H. Wilson, assistant section director in charge is as follows:

The temperature was slightly above normal during the latter part of the week. Light rain fell on the northwest coast and in the northern portion of the Sacramento valley. Fires caused considerable damage to wheat fields in Yolo county.

Grain harvest progressed rapidly in nearly all sections, and thrashing has commenced in some places. In Southern California the yield of wheat and barley is reported heavier than for many years and the grain of superior quality; in some districts the crop is said to be nearly double early estimates. In the central and northern sections early wheat is of good quality and the yield about average; barley is reported a heavy crop in most places and of excellent quality; late wheat will yield a very light crop. The hay crop is below average in nearly all sections except Southern California, but is of good quality; baling is progressing rapidly. Sugar beet harvest has commenced. Beans are making good growth, and there is a larger acreage than usual in some sections. Hops are doing well, but the crop will be light. Corn, potatoes and vegetables are in good condition.

Vineyards are unuasually thrifty, and prospects are good for large yields of raisin, table and wine grapes. Deciduous fruits of all kinds are rapidly maturing and the markets are well supplied. Fruit drying and canning are progressing.

* * *

In the Sacramento valley, especially Yolo county, fires destroyed much grain. Pears and prunes big crop. Grapes in fine condition.

Coast and bay counties are yielding much lighter hay and grain crops than anticipated. Early apples at Hollister are ripening and of fine quality. Almonds and walnuts at Cloverdale are filling out well.

* * *

In the San Joaquin valley the summer fallowed grain proves far better than the winter plowed. Stock in good condition. Irrigation water plentiful.

In Southern California the grain is heavier than anticipated. In the El Cajon valley the output will be 50,000 sacks. Lima beans are making good growth. Mustard at Lampoc damaged by bugs. Walnuts and apples dropping badly. Citrus crop promises to be good.

The appropriation of $10,000, made by the recent legislature for preservation, improvement and maintenance of the California Redwood Park, in Santa Cruz county, is to be used in building roads, bridges, etc., and for the employment of a warden and necessary assistants, $5,000 to be available during this year and $5,000 in 1904.

The Cultivator in its advertising columns this week announces the advent into California of a northern firm. Sims & Son have the sole agency for the state for the Duplex step ladder, a fruit pickers' ladder, that has been very successful in Washington and Oregon. W. B. Sims in a three weeks tour in Southern California has sold three car loads of the ladders to the trade. The firm of Sims & Son have opened wholesale quarters on East Second street, Los Angeles, and will soon open like quarters in San Francisco.

Cut worms are reported as still being very destructive in Sutter county.

Farmers in La Habra valley are harvesting about fifty sacks of potatoes per acre and are getting from 90 cents to $1.00 per hundred pounds for them.

The season's apple crop in the Pajaro valley is now predicted to be a record yield. The Parjaronian estimates the output this year at 1,500,000 boxes.

BEE SUPPLIES—G. G. Wickson & Co, 23 N. Main Street, Los Angeles, Cal.

Cocoanut Oil Cake

THE BEST
Feed for Stock
Chickens and Pigs

For sale in lots to suit. By

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A FINE LOT

FOR NAVELS VALENCIA NAVELENCIA LEMONS 1903

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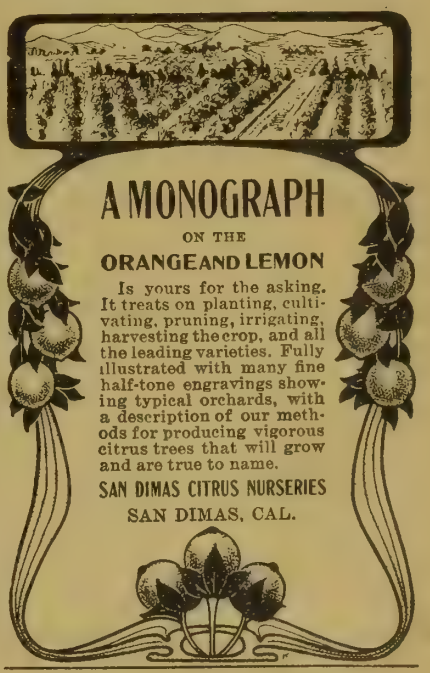
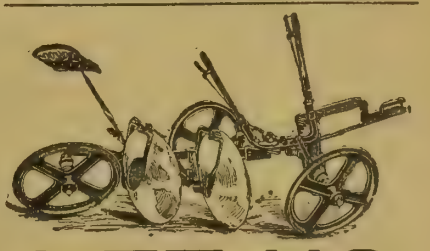


A MONOGRAPH
ON THE
ORANGE AND LEMON

Is yours for the asking. It treats on planting, cultivating, pruning, irrigating, harvesting the crop, and all the leading varieties. Fully illustrated with many fine half-tone engravings showing typical orchards, with a description of our methods for producing vigorous citrus trees that will grow and are true to name.

SAN DIMAS CITRUS NURSERIES
SAN DIMAS, CAL.



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Supply your wants when you are in need of anything in the line of farming tools, implements or machinery, Engines, Boilers or Pumping Outfits. We can furnish you everything from a complete Threshing Outfit down to a shovel. We carry only the standard, reliable lines and we keep the prices close to the cost. Come and see us or write for our catalogue.

Baker & Hamilton

Wholesale and Retail
130-136 N. LOS ANGELES ST.
LOS ANGELES, CAL.
Sacramento San Francisco New York

Coulson's Egg and Feather Food

Coulson's Egg Food is a highly nutritious and palatable food. It is a blending of several different food materials, in such proportions as to best furnish the necessary elements to fully nourish the body and promote egg production. It is to be mixed with warm water and fed twice daily.

Large poultry raisers anticipate to commence feeding Coulson's Egg and Feather Food much earlier this season than heretofore, in order that they might shorten the time of moulting and have the hens in laying condition when eggs are high.

Coulson's Egg Food is a great feed for hens, to produce eggs and feathers.

Hens can be made to moult much quicker and go to laying sooner by feeding them Coulson's Balanced Ration Egg and Feather Food.

Keep Them at It.

The hens that are fed on Coulson's egg and feather food will be laying long after their poorly kept neighbors have laid out and gone to setting.

Coulson's egg food makes hens lay longer, makes hens lay more eggs, and keeps them in better condition.

It takes food to make eggs. To know what to feed a flock of hens or chicks requires study and attention. It also depends on whether you are

feeding for eggs, or for fattening for market.

Laying hens should be fed all they want without stuffing them. They should be fed on egg-producing food. When the hens are shelling out the eggs at a lively rate, and their actions show that they are not getting enough to eat, then increase the amount.

To have hens to lay eggs freely in the late fall and early winter is not the way hens usually do, unless we take special pains to get laying hens at this season.

The hen should be fed once or twice daily on Coulson's egg and feather food to give them good bodily strength and vivacity, and to enable the laying hens to moult early and quickly and to have a nice glossy plumage.

The haphazard method of rearing poultry which was in vogue in the days of the cythe and cradle will not do as a companion of the improved machinery of today.

Science and balanced rations are the guides to success. Not only in getting more eggs, but also in keeping the fowls strong and healthy and not allow them to become too fat and broody.

Process of Moulting.

Many fowls will soon commence to moult and fowls that have been and are fed on Coulson's Egg and Feather food will complete their moult in the shortest time.

The moult is a strain on the vitality of any fowl. Besides maintaining the body, the food must furnish material for the new pulmage, and unless the food contains the required components in adequate quantity impairment of health is certain. When a fowl is in fine health at beginning of moult and is judiciously fed throughout its course, the growth of the new plumage is rapid, its appearance simultaneous with the falling off of the old plumage and the bird may never appear worse than a little rough-coated at any time during the moult. But when the fowl's health is impaired at beginning of moult, or when the food furnished during the moult lacks adequate quantities of the proper constituents, large patches of the surface of the body may be bare of any plumage for a long time from the old feathers having dropped off before traces of the new plumage appear. Fowls may even become quite fat during the moult without having new plumage developed normally, because their food has great excess of starchy and fatty constituents and great lack of protein and minerals. It will usually be the question of the age of the fowl whether the plumage is delayed or the fowl's health impaired my improper food. A young bird will have a tendency to make plumage at expense of health, while an old bird's body will be nourished in preference to formation of plumage. Generally a young bird will moult earlier than an old one.

For several reasons it is important to every poultry keeper that his fowls shall moult under the best possible circumstances as to their own condition, and also at the most convenient and desirable season of the year. Any one keeping fowls for eggs surely needs eggs in fall and winter, when prices are highest, and it is usual for all egg production to cease while the moult is in progress. The fancier who exhibits, desires the moult completed at the earliest possible date, especially if he exhibits at fall shows.

Many experienced poultry keepers state that the moult is a purely natural process, uncontrollable as to season and duration, subject only to individual characteristics of each bird. Control of season and duration of moult are possible, irrespective of age or date of hatching, and it is my purpose to outline herein the measures necessary for doing this.

Perfect health and condition of fowls, freedom from damp and dirt in houses and absence of lice are essential to any control of moulting.

In the early hot days of July the fowls begin to lay with comparative infrequency. Then begin to force the moult. The fowls are restrained so as to be entirely unable to forage. Small rations should be served gradually decreased, until about the third day the birds are receiving only about half one ordinary meal per day. About the fifth day I slightly increase the food, and about the seventh day—if matters appear satisfactory—set the fowls free.

After this feed the fowls all they will eat twice a day of Coulson's egg and feather food and be sure to give them plenty of green stuff; also give them a little of Coulson's No. 3 condition powder in with their feed two or three times a day.

Follow above instructions, and your fowls will finish moulting in 60 days,

and will be ready to lay when eggs are high.

If your grain dealer hasn't got a supply of Coulson's egg and feather food, send in your order to factory and have it sent by freight for you will surely need it.

COULSON'S LICE KILLER

Now is the season for lice. Better get a five-gallon can of Coulson's Lice Killer and keep the lice thinned out.

Coulson's Lice Killer will make short work of all kinds of lice, bugs and insects.

Coulson's Lice Killer penetrates the wood and kills the nits or eggs of lice.

Coulson's Lice Killer leaves behind a powder which is also death to lice.

Coulson's Lice Killer is clean, It does not spoil the plumage of fowls.

Coulson's Lice Killer is a good disinfectant.

Coulson's Lice Killer will kill bed-bugs.

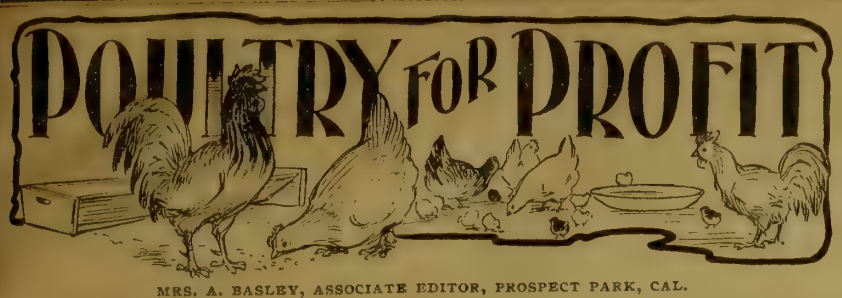
Coulson's Lice Killer will kill flies on cattle or horses.

Coulson's Lice Killer is what you need. Price, One Gallon, 75 cents; Five Gallons, $3.25.

SPECIAL OFFER—Five-Gallon Can sent prepaid to any station in California for $3.50.

A. R. COULSON

772-774 Main St., Petaluma, Cal. Long Distance Telephone, Black 1303



MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

WOMAN'S WORK IN THE POULTRY YARD.

Moulting.—Last week we considered the welfare of the young stock and decided that freedom from lice and never overcrowding were essential in keeping the chicks growing. This came under the head of comfort. The fact is, the three essentials for success in raising any kind of animals properly are comfort, exercise and proper food.

Comfort, exercise and proper food will, in the human family, give health of mind and body, whilst in the poultry yard these three are necessary for the greatest egg yield, the finest growth, and the best success. In fact, with any one of these lacking, failure will be the result.

This week I want to consider the moult. Last year I read with the greatest interest the account Mr. Van Dreser of New York gave of his method of controlling the moult. He claimed that he made his hens moult whenever he wished. He had discovered how to force the moult, making them moult when eggs were the cheapest. His plan was to cut down the feed to about half one meal per day for two weeks until the hens became quite thin, and then to feed them heavily with stimulating food, when he said the feathers would drop out and new feathers would quickly grow. His argument was that when hens sit for three weeks on eggs and raised a brood of chicks they moulted quickly, because they had grown thin and afterwards had the nourishing food the little chicks were fed and this helped on the moult.

His argument seemed plausible and I decided I could be as smart as Mr. Van Dreser, but my bump of caution led me to make a trial of only a dozen hens. This trial dozen I put on short rations in June, to make them thin, stop laying, and prepare for the moult.

A quick moult usually takes sixty days; from sixty to one hundred days is the duration of the moult. When my trial dozen of young hens had fasted two weeks they still continued laying (mine are indefatigable layers), but were quite thin. I then proceeded, Van Dresser fashion, to feed them up, with feather making food, and was pleased to see feathers dropping freely, but the eggs still came as freely as ever. In about six weeks the hens commenced to feather out, and stopped laying. They soon looked beautiful. I felt quite as elated as Mr. Van Dreser, but, like him, was doomed to be disappointed, for although they laid a few eggs in October I soon noticed something was wrong, for they all began to moult again and instead of having but one moult that dozen hens had two moults, lasting in all nearly nve months, and I learned again by sad experience that it does not pay to go contrary to nature.

"You have acquired a powerful sight of information," said one man to me, "but you have had a big price to pay for it."

I hope some of my exerpiences may help others, even if they were costly and sad for me. I have since read that Mr. Van Dresser finds that trying to force the moult is not the success he anticipated and he no longer practices it.

Trying to force nature, is apt to result disastrously, but assisting nature, as the homeopaths advocate, is quite possible. That is usually what I try to do at moulting time of all others. The moult has a paralyzing effect upon egg production, especially upon the Mediterranean breeds, and I want to assist nature to get rid of the old feathers and on with the new. This is the problem and this is largely controlled by the food. Here proper food is even before comfort. Proper food is the food that contains the elements of feathers; the protein must be increased, more animal food must be fed and, to enable the hens to digest the animal food, a plentiful supply of green food is desirable. I have always added linseed meal to the mash during the moult, but this year I intend trying cotton seed meal, because I find by its analysis it contains more protein than linseed meal, and the fowls like it better.

They require a large supply of grit, shell and charcoal, and when fed a mash should have once a week a little sulphur added or one of the many poultry tonics, and above all, they must be kept entirely free from lice or mites. Giving them a good washing in warm soap suds and afterwards rinsing them in water to which some Chloro Naptholeum has been added, will kill the lice, help the feathers to come out and bring in the new feathers clean and glossy. If a hen has lice they will eat into the tender sprouting of feathers so that there are little rows of holes in the webbing, spoiling all chances of winning a prize.

The males should be taken away from the hens, and if required for next year's breeding should be kept in pens separated and where they cannot see the females. Those not required for breeding should be marketed as soon as possible to save feed, also to prevent their annoying the hens, and to make more room for the growing pullets.

* * *

ANSWERS TO CORRESPONDENTS.

I have noticed in the papers an account of a hen in New Jersey that lays two eggs a day. Do you think this possible? Mrs. J. F. Y.

Ans. This came out as an April fool joke, and it took in a number of people both East and West, and I am sorry to say has been copied into reliable papers for a fact. It is not possible, and is not true. [We trust no very reliable farm papers copied the item for a "fact" and for fear some one may ask Mrs. Basely regarding the electrical appliance which makes California hens lay three eggs a day, we will say that the blamed thing isn't working just now—Ed.]

* * *

Will you please tell me again the name of the liquid for keeping eggs. J. R. B.

Ans. I suppose you mean the soluble glass, silicate of soda (sodium silicate). It can be procured at any good drug store. In regard to this I yesterday poached some eggs that had been put into this liquid nearly four months ago—on the tenth of March. The eggs are in excellent condition, firm and good, the whites are as creamy as new-laid eggs, but fancied that the yolk of one tasted a little flat: the other I should not have known to be over a day old. I advise you to try putting down several dozen as an experiment.

* * *

A subscriber who has eight hundred

HERE IS YOUR CHANCE
15 EGGS FOR $1.00
From the best strains of Barred Plymouth Rocks, White Rocks, Brown Leghorns and Black Minorcas that have won in New York, Boston and Chicago.
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Only Birds that have
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White Leghorns AND Barred Rocks
The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.
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The largest poultry supply house in the United States
FOR ONLY $4
I will ship you during July and August, freight prepaid, to your nearest R. R. station the following articles:

1 100-lb sack "Henteeth" (the best grit) valuc	$1 50
1 100-lb sack Fancy Shell, very hard, value	1.25
1 1-gallon can "Great Lice Killer," value	1 50
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1 package (48 oz.) Insect Powder, value	.50

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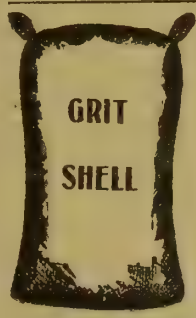

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And during JULY and AUGUST will ship to your nearest freight depot, FREIGHT PREPAID, the following most necessary articles for poultrymen at this season:

1 100-lb. sack "Henteeth" (the best grit) value	$1.50
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GIVEN AWAY
"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.
Eggs—13 for $2.00.
INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2.50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.
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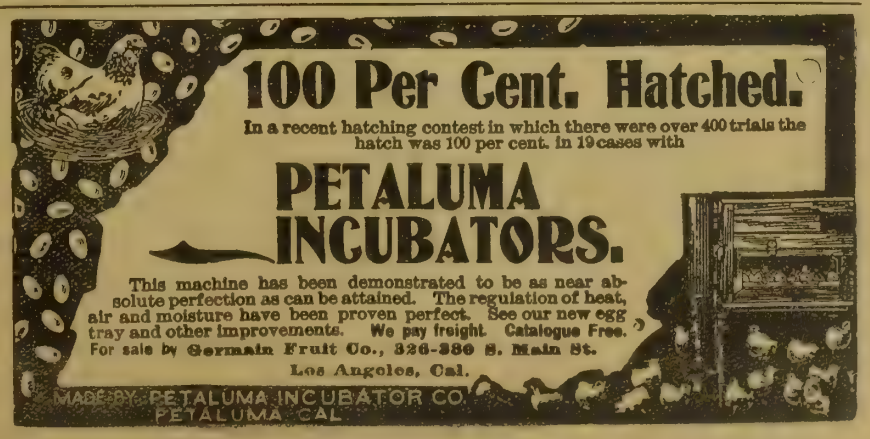

hens, mostly Leghorns and Minorcas, writes that he has been having poor results. only getting about one hundred and seventy eggs per day. Wants to know what the egg yield from eight hundred hens should be and whether fruit of any kind, especially prunes, will prevent hens laying.

Ans. The Mediterranean breeds lay profusely in the months of March, April and May. The egg yield from eight hundred of those hens during those months should not be less than four hundred per day, but I fear he has too many hens for his space. I would advise him to sell off half, and to examine carefully for lice, change the feed, giving the mash at night, and to make the hens scratch all day for their living.

I have never found fruit of any kind to prevent my hens laying. Would like to hear from others on this subject.

* * *

I am receiving many letters asking for description of the turpentine weed and how it may be recognized.

It is a small weed six or ten inches high at present, the blossoms come in about three or four weeks, they are blue. The weed smells exceedingly strong of turpentine when crushed. I do not personally know of any sale for it, and I would not like to sell any until I have made a very thorough trial of it to prove its worth.

OVER-CROWDING POULTRY.

There is no graver danger to fowls than crowding too many in too small space. Not only do a number of diseases result from this course, but the hens will not lay as well, and the profits in consequence are greatly diminished.

It is natural when a poultry keeper makes a fair margin of profit for the year to wish to add to it the following season by increasing the number of his fowls. This is sometimes done without enlarging his buildings and yards sufficiently, and the dangers of overcrowding incurred in consequence. Now that so many make a living from scientific poultry keeping in large or small plants, a poultryman cannot afford to overcrowd or neglect his fowls, for he is in general competition with these plants in marketing his chickens or eggs. Of course, no matter how large a number of fowls are kept in a henhouse some will lay, but there is nothing like the egg yield there would be should other methods be used.

Overcrowding is quite often accompanied by under feeding, particularly as there has been so much written about the danger of too much food for laying hens. This advice is undoubtedly correct, and a medium course in feeding should be followed, but it would seem that it were best to be on the side of over feeding rather than the reverse. It is surely true that a hen cannot produce eggs if she is not given the food to do it with, and in the anxiety not to over feed her she may not get sufficient food.

It seems to take all the ambition out of a hen to have too many of her own kind about her. Why should she lay eggs to hatch out chickens (for that is what a hen lays for, and not to realize so much money per dozen for them) when there seems to her no room for them to live or grow in? Again, where there are too many in a yard there is less likelihood of finding tid-bits by hunting for them, so a hen will stand around waiting for feeding time. It would seem to be the best plan to keep only a moderate number of hens in the different yards, to keep them out of sight of those in other yards as much as possible, and to give each yard of fowls a chance at free range every now and then, or at any rate a run in a larger space.

There is far more profit in a smaller number of fowls well kept than in a large number poorly managed, and in this poor management overcrowding has a prominent place—American Poultry Advocate

---

The poultryman who does not know which of his hens are the best layers is not as well acquainted with his flock as he should be. It is the drones in the flocks of this country that keep the average down to sixty eggs a year.

"If I'm not a little more careful," said the hen, as she discovered a china egg in her nest, "I shall be laying bricks next."

C. H. SESSIONS, ASSOCIATE EDITOR

CEMENT FLOORS FOR CATTLE.

While there are many people who contend that cement floors are unexcelled for cow stables, we begin to think that this opinion is not altogether correct, says Farmer's Sentinel. It has been noted that where cows lie upon cold cement and are not allowed a deep bed of dry straw or other litter that their udders become chilled and affected with mammitis. No matter how well one may bed cows they are apt to get the litter out of place so that the cement is laid bare and when this occurs trouble is sure to follow. In finely bred dairy cows there seems to be a delicacy of the skin of the udder which makes it peculiarly liable to congestion and inflammation and we have traced to the cement floor many chronic cases of garget which could not otherwise be explained, and which have subsided when the cement was covered with boards. We also notice that Prof. Carlyle of Wisconsin claims that cattle are subject to rheumatism when standing on cement floors and that this disease has disappeared since he covered the floors with wooden gratings, which are easily removed for the purpose of cleansing the stalls. There are but two of the bad results following the use of cement floors. We have seen a good many cases of abortion from slipping on such floors and not a few cases of fracture of the pelvic bones from falls received on the slippery surface offered to the feet of cattle and horses. It is, however, a difficult matter to suggest a fit substitute for the cement floor if done away with, for cement is easily kept clean and other floors absorb liquid excreta and are apt to become foul in summer time. To us this seems chiefly a matter of bedding. If the bed is deep, and kept dry the cement floor will do little harm, but where the straw is grudged or thinly laid on the cement is sure to become bare and hurtful.

STRONG POINTS OF DAIRY BREEDS.

Hoard's Dairyman gives the following points of superiority in certain breeds of cattle, or rather the breeds which are strongest in certain characteristics. The points given are from observations made by Dr. J. M. W. Kitchen (1) To breed true to race type, he places the Holsteins first and the Jerseys second.

(2) "In highly evolved dairy form and function" Dr. Kitchen places the Jerseys first and the Holsteins second.

(3) "In power to make the best use of a certain amount of food" Guernseys first, Jerseys second and Holsteins third.

(4) In ability to stand high-pressure feeding for considerable periods, "the greatest yearly and life-long profit," Jerseys first, Ayrshires second and Holsteins third.

(5) "In power to produce the richest milk, the Jersey averages highest, Guernsey second."

(6) "In rich coloring of milk, the Guernsey stands first, while the Jersey takes second rank."

(7) "In highest average of individual excellence, I consider the Jersey stands by far at the head, while the Holstein stands next. The average Jersey is certainly the most highly evolved dairy cow on earth."

(8) "The largest producers of a low fat per cent. milk," Holsteins first. Ayrshires second,

(9) The author is uncertain whether to place the Holstein or Ayrshire first in hardiness, and adds: "Other things being equal, the cow that uses up the most of the blood she makes in producing milk is the least hardy."

The gentleman who gave up his seat to a lady on an elevated train, afterward found out that she had been robbed while occupying it.—Puck.

JERSEY NOTES.

It will be observed that in another column appears announcements of a number of members of the Jersey Breeders' Association of Southern California. This association is an organization to advance Jersey interests in the southern end of the state. That it has done it in its two or three years existence goes without saying.

That it will do still more during the coming year is equally evident. One step in that direction is the arrangement with this paper for a full column of space to be used by members for one year. This manifests that these men have faith in the stock which they are pushing as the highest type of dairy cow in existence.

In that column will appear the announcement of members only. The standing of these members as careful breeders is assured for the association stands for careful breeding and square dealing.

Any one wishing first-class stock of this breed will do well to scan that column. It will have some interesting announcements.

Members of the association are anxious for the fall exhibit and butter fat test. We trust the committee will give us some definite information for the next issue.

D. G. Whiting writes us from the "desert" at Imperial in which he speaks of his observations of the work of his magnificent bull Lowland Lad. He says:

I thought all the time I had a great bull, and time is proving him to be a great breeder and worthy to mate with the rare daughters of Pedro's Prince Primrose. The Cultivator gets good words at every opportunity.

A. B. White is offering an exceptionally fine lot of registered stock at private sale this week. We are sorry to state that Mr. White will retire from the breeding business. This is made necessary by encroachments of the city, high priced residence lots and dairy restrictions now reaching up to the edge of Mr. White's little ranch. So Mr. White is now offering his entire stock for sale. His stock comprises the St. Lambert, Melia Ann, Marigold, and Brown Bessie families, headed by the pure St. Lambert bull, King's Victor king of St. Lambert." Will sell separately the herd of bulls, cows, young bulls, if desired, or will sell all together.

Mr. White has had Jerseys since 1884, started a herd here in 1895, has brought 21 animals in single crates by express over the mountains, and widely distributed them and their increase to some of our best herds.

Vela Hastings, 119615 A. J. C. C., recently dropped a fine heifer calf by Marigold Holyoke, 49594. Judging from the way this sire was bred up, this heifer should prove even better than her dam, which means a good deal, as Mr. Leffingwell says Vela Hastings is going to crowd 500 lbs. of butter pretty hard this year.

DAIRY ITEMS.

J. B. Raitt, of Santa Ana, is adding a 1750 pound Alpha separator to his already extensive plant.

S. S. Farnsworth, of the Santa Ana creamery, is putting in a skimming station near Westminster. He has ordered an Alpha separator from Wickson & Co.

Eeven with the six car loads of eastern butter now being shipped to Los Angeles to be put in cold storage, the probabilities are there will be a shortage of nearly a hundred thousand pounds next January and February.

The new creamery owned by Alexander & Knoch at Susanville, began operations July 1.

The Dos Palos skimming station has recently been acquired by a Rochdale company, and it is stated that the plant will be enlarged to a full creamery as soon as possible.

JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

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E. E. MOORE, Vice-President, Compton
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Organized for the advancement and development of Jersey Cattle Breeding in So. Cal.

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REGISTERED JERSEY CATTLE
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FOR SALE
Gold Drop's Gladys, 170236. Sire, Sunmaid's Gold Drop, 34272. Dam, Lotty's Gene, 117516. Dropped Jan 4, 1901. Price $100. W. Jay Cole, Anaheim, Orange Co., Cal.

MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

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Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
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WHITTIER, CAL.
Home of "Sargent Fox," 64,833, by Flying Fox, out of a great Island cow. Service reasonable. Reductions made to those coming from a distance. Service free on cows having authenticated fat or butter records.

If you want a good bull to head your herd, look at my 14 month
Matilda's King Mat.
He's a beauty.
Registered Berks of Gentry and Biltmore blood
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OF REGISTERED JERSEYS.
Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices.
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Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
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JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
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BREEDER OF THE BEST MILK STRAINS OF REGISTERED JERSEY CATTLE.
Buena Park, California

THE DISPERSAL SALE
OF THE
ECHO GLEN JERSEYS
Is moving the stock quite rapidly. Only sixteen head left, which are offered at greatly reduced prices for the next few days. Young males at about half price. Come and see them quick.
A. B. WHITE
2547 W. 12th Street Los Angeles, Cal.

WILL SAVE FARMERS MONEY.

G. E. Colby, of the California University, is issuing a bulletin giving farmers directions whereby they may save a vast outlay in spraying compounds for orchards. He has found that it is possible to use other substances than Paris green in compounds for killing pests. His substitutes have greater efficiency and will cost much less than the Paris green, which has been hitherto used almost universally.

Dr. Colby has done away with the use of costly copper oxide, and made several cheaper substitutes. Another feature of the new compounds is that they do not have to be constantly stirred to preserve their effective qualities. The practical horticulturist can now produce a compound of arsenious acid and white lead or lime at one-seventh the cost of Paris green. The mixture soon cures the trees.

FLY TIME.

Just as we congratulate ourselves over the increased milk flow from good pastures the flies hatch out and hunt up the cattle for breakfast and lodging. What are you going to do about it? Just let old Brindle stamp and switch and slam her head around? Well, if she's lively, this procedure will keep the flies busy, but it will take a lot of milk to do it. Milk is the most expensive fly repellant you can invest in. Some dairymen keep their cows in a darkened stable—flies are afraid of the dark—and allow the cattle to graze at night. This means a special stable equipment and more or less feeding. When pasture is plentiful we like to give cows all they want of it. We have been fairly successful with different spraying mixtures, a gallon of kerosene to a quart of fish oil with an ounce of carbolic acid added being the cheapest and most effective. It should be put on in the morning with a 50-cent hand sprayer (larger for larger herds), and to be completely effective should be applied daily. A few minutes will suffice for each animal. The head, neck and shoulders and fore parts out of reach of the tail should be especially treated. Many flies can be killed in the process of spraying, and after a few day's application the cattle will feed quietly in the heat of the day during the fly-pest months, without any worry whatever. The fruit men have found that there is no profit in their business without spraying and the energetic and thrifty dairyman must join the procession. Let us spray.—Rural World.

SKIM MILK FOR PIGS.

Oats, bran and shorts are good muscle-making foods, but for weaning there is nothing like skim milk. Many farmers seem of the opinion that it is not profitable to raise two litters, the principal reason being that they cannot be made to grow materially during the cold weather. Up-to-date dairymen have learned of the importance of taking good care of their cows in winter, and if an equal amount of care and attention is given to the pigs they cannot help but grow from March to July.

CREAMERY SUPPLIES

Cream Separators — Milk Cans
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SAN FRANCISCO — PORTLAND

CAUSE AND CURE OF COLIC.

One of the most fruitful causes of colic is the too common habit of allowing horses to partake of large draughts of water immediately after finishing a feed of oats. There is no surer way of generating an attack of colic than this, the reason being that when a large quantity of water is thus imbibed it has the effect of carrying into the intestines some of the freshly eaten grain. This grain, being still in a raw and undigested condition, its effect when it reaches the intestines is to give rise to the irritation and inflammation which are the immediate causes of the colic. In dealing with cases of this kind the most obvious course to adopt is to take precautions to prevent the animal from drinking large quantities of water under the circumstances just referred to. When an animal falls a victim to an attack of colic, the best thing to do is to administer a dose consisting of one ounce of laudanum and two ounces of sweet spirits of nitre along with half a pint of whiskey in some hot water.

Very often simple cases of colic yield to the administration of a couple of ounces of cooking soda, diluted with water, and given as soon as the first symptoms of the attack are noticed. Should the administration of this cooking soda fail to give the desired relief, no time should be lost in following it up with the laudanum and spirits of nitre already suggested. —Ex.

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

CHRONIC COUGH.

My dog, a Pointer, has had a bad cough for over two months. It seems to be in his throat.

He coughs most in the early morning after I have let him loose.

He seems in good spirits and eats well but doesn't get very fat.

The cough is harsh and deep and seems as though he were trying to get something up. What do you think ails him, and what had I better do?—Subscriber.

Get a pint bottle of Turpine Hydrate and Codeine Sulphate. Give one teaspoonful three times a day.

SLOUGHING WOUND.

Editor Cultivator: One of my mares has a running sore between under jaw bones; has been running for over a year. I thought it was caused from some grass seed, like wild oats, but it is not. I tried curing it with a liniment made of eggs, turpentine and vinegar, but it would not heal. She is healthy, strong and keeps in good condition and eats well. Would like a remedy to cure same.—Sub., Laytonville, Cal.

There is some foreign matter in the wound that prevents its healing. Cut the wound open, probe it thoroughly with the finger and remove the offending object and it will heal kindly by the application of a little antiseptic daily.

COUGH.

Editor Cultivator: Have a horse that has a light cough somewhat like heaves, and am afraid he is coming down with same. Please give something on symptoms of heaves and what remedies to use to prevent and cure same.—Sub., Willits, Cal.

Heaves or emphysema is characterized by a hollow cough, never loud. The muscles of the flank give a double jerk at each inspiration. Avoid all dusty or mouldy hay and keep the bowels in good condition. When heaves is once well established there is no cure for it. The distressing symptoms can be relieved by giving one ounce of Fowler's solution of arsenic once daily.

THOROUGHBRED BERKSHIRE HOGS
FOR SALE
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THOROUGHBRED POLAND CHINAS
Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons, KINGSBURG, CAL.

FOR SALE
YOUNG HOLSTEIN BULLS
Percheron Brood Mares and Stallions all Registered. Write or call.
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SHROPSHIRE AND
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Both Sexes For Sale
Live Oak Ranch PETALUMA, CAL

ANGELUS HERD OF GUERNSEYS
Finely bred BULL CALF from my Wisconson stock. Price, $50.
MARCH
Cor. 39th and Western Los Angeles, Cal.

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OF
The Cutter Analytic Laboratory
On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from Fresno to Berkeley.
Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is
The Cutter Analytic Laboratory
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OUR SPECIALTY IS
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If your druggist does not stock our products, order direct from us. We pay all transportation charges.

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De Laval Cream Separators
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JERSEY BULLS OF ALL AGES
FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY - DUARTE, CALIF.

SLEEPY HOLLOW HERD OF HOLSTEIN CATTLE
We have just received from the Eastern States two carloads of officially tested cows. This has overcrowded us for the present, and to make room we are offering some excellent young cows for sale. They are all in calf to our great herd bulls, and right now are in fine condition to ship. For full particulars write
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When he sees it, which is the reason he takes so much pride in the
U. S. CREAM SEPARATOR
The U. S. has many points of superiority, but the following three are sufficient to make it
The most desirable to own :
Clean Skimming.—Holds the World's Record.
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For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.
Vermont Farm Machine Co., Bellows Falls, Vt.

JUST BE GLAD.

O heart of mine, we shouldn't
  Worry so.
What we've missed of calm we couldn't have
    you know;
What we've met of stormy pain,
  And of sorrow's driving rain,
We can better meet again,
  If it blow
We have erred in that dark hour
  We have known:
When the tears fell with a shower;
  All alone.
Were not shine and shower blent
  As the gracious Master meant?
Let us temper our content
  With His own.
For we know not every morrow
  Can be sad;
So, forgetting all the sorrow
  We have had,
Let us fold away our fears,
And put by our foolish tears,
  And through all the coming years
Just be glad.

—James Whitcomb Riley.

BREAK, BREAK, BREAK.

Break, break, break,
  On thy cold gray stones, O Sea!
And I would that my tongue could utter
  the thoughts that arise in me.

O well for the fisherman's boy
  That he shouts with his sister at play! !
O well for the sailor lad
  That he sings in his boat on the bay!

And the stately ships go on
  To their haven under the hill:
But O for the touch of a vanished hand,
  And the sound of a voice that is still!

Break, break, break
  At the foot of thy crags, O Sea!
But the tender grace of a day that is dead.
  Will never come back to me.

—Tennyson.

THE PASTURE KNOLL.

It was a dreary afternoon, and the light was waning. A timid ray, struggling through the west window, yet lingered in Nancy Allen's kitchen as though loth to leave her alone. She was standing by the window, anxiously peering out into the growing shadows. A tattered white rag, flapping dismally from one lone cherry tree, was the only visible apology for life.

"Per'aps there'll be a light, yet," she faltered; and she felt a grain of comfort from the wavering hope.

Nancy drew towards herself a chintz covered rocker; but she did not sit down.

"Reckon I'll see it sooner if I stand;" and there she remained, withone hand on the windowsill, peering out into the gathering gloom.

Occasionally she uttered a piteous little wail, "Poor Sarah!"

Long she stood there motionless, but still no light appeared in the weather-stained cottage on the hill.

"'Tain't no use," she murmured.

Reluctantly she turned away and slowly bent over to straighten out the worn braided rug at her feet.

"I guess she's gone, else there'd be a light. Mary never could bear to stay in the dark. She was always rather timid, ever since she was a little mite."

Nancy's hand trembled perceptibly as she lighted the lamp. She was strangely moved!

"Reckon I don't need any supper; but suppose she should come for me to set up. I should feel sort of faint before mornin'. Perhaps I'd better eat a bite, an' be all ready."

Nancy then went to the cellarway, and got a broken tumbler of currant jelly and two slices of wheat bread. These she placed on one end of the kitchen table—the other end was covered with rags cut into narrow strips for a new rug.

"Presume if I should set up, I'd feel the need of a cup of tea;" and Nancy hastened toward the little closet at the other end of the room, where she kept the remnant of her mother's purple and white china tea-set, the teapot, and the bone-handle knives and forks which she had had when she was married. After the teapot was placed on the stove, Nancy again went to the window and peered out.

"There hain't one speck of light. Oh, Sarah! an' you won't let me share it with you;" and Nancy sighed sorrowfully, as she sat down to eat her scanty meal.

Nancy Allen had eaten alone for two years, ever since her husband was brought home in a half-unconscious state from the accident at Joel Tyler's barn-raising.

Just before he died, he whispered to Nancy, "Bury me over on the pasture knoll. Then I can be in sight of —home. I always wanted to be buried there, it's so peaceful; and I'll—wait—there—for—you—Nancy."

"Yes, William, 'twill be just as you wish; an' you'll be near to Sarah's, too," sobbed Nancy; but her husband didn't hear her answer.

Sarah Wilson and her daughter, Mary, lived up on the hill, opposite the pasture knoll. The Allen land extended some little distance in front of the Wilson farm, on the opposite side of the road. The pasture knoll, a delightfully picturesque spot was just across the road from the Wilson house. The two families had always been the warmest of friends; indeed, they seemed almost as one family.

"What belongs to me, belongs to you," Sarah often declared to Mrs. Allen; while she in turn, always replied: "If I have anything you want, Sarah, an' you don't find me at home, you just walk right in and get it—you know where the key is."

"I don't see what Nancy Allen can be thinking of, Mary," declared Mrs. Wilson, excitedly, the day after Mr. Allen's death, "to be making a graveyard right in front of our house."

"Why, Mother, you're not afraid"—began Mary.

"Afraid! course not," interrupted Mrs. Wilson. "I don't mind it so much for myself, but 'tis the property I'm thinking of. 'Twill spoil the sale of it; an' Nancy Allen knows it! Who'd want to buy a farm with a graveyard right in the front door! If she treats us so, I'll never have nothing more to do with her—never. As tho the graveyard where other folks is buried hain't good enough for William Allen."

"Why, Mother," replied Mary, looking up from her dishes; "I don't see as it will make very much difference. We don't want to sell the old place and, if we ever do, nobody who wanted to buy it would stand out for a grave on somebody else's farm."

"You don't understand it," sobbed Mrs. Wilson. "We've always been like sisters, and to think that she would hurt my feelings a-purpose. I told her yesterday, when I was setting up there that the other place was just's good; and she said as calm-like—she knew 'twas hurting my feelings—'Sarah, I must carry out the wishes of the dead.' "

So they had not spoken since the funeral.

Nancy went many times to her old friend's, "to reconcile us again," she said to herself; but her knock was never answered. Then Nancy would go down to the pasture knoll and wait; but Sarah never appeared.

It was very lonesome for Nancy living alone in her cheerless home. She often drew up her chair to the window so she could see Sarah's light.

"It seems most's tho Sarah was here of an evening when I see that light," sighed Nancy to herself. Often she would go to the pasture knoll for company.

"I can be near them both, then," she said, as she trudged wearily up the hill.

On one of her lonely pilgrimages she met a neighbor who had just come from Sarah's.

"Goodmorning, Mis' Allen! Going up to see Mary Wilson? She's pretty bad off, no mistake! It comes rather tough on her mother, being all alone."

Nancy replied, half to herself: "An she didn't let me know."

Drawing her shawl closer arond her frail form, she hastened on up the hill. To her timid knock—how strange it seemed not to go right in—the door was opened by Sarah.

"Oh, Sarah, how is Mary?" asked Nancy, anxiously.

"'Bout the same, Mrs. Allen," answered Sarah, shortly; and she was about to close the door.

"Can't I come in an' do something for you? I want to be just the same's we were before. Oh. Sarah—can't we?" and Nancy extended her little mittened hand, tremblingly.

"I don't know's I hanker to be friends with folk that hurt one's feelings a-purpose. I can get along well enough;" and Sarah turned abruptly and closed the door, leaving the poor Nancy amazed, and almost frightened at her sternness She slowly started home; but when she reached the pasture knoll she waited a moment. There was no indication of a grave.

"With no stones," concluded Nancy, "it won't seem so hard for Sarah. Oh, William, she sobbed, "would you have minded being buried in the other place, if you had known how Sarah'd feel?"

For a week she anxiously watched the light on the hill; now there was no gleam from the window. Often, during the evening, she thought she heard Sarah's step; but it was only the leafless branches of the maples swaying against the rafters. There was a step at last—of a neighbor's lad.

"Mary Wilson's dead; thought you'd want to know."

Long sat Nancy murmuring: "Poor Sarah!" All at once she started. "Perhaps 'twill reconcile us—if she'll do it! "

Mournfully the clock ticked, while Nancy painfully penned the homely note, so full of love and sympathy.

"Dear Sorrowing Sarah: I just heard 'bout it. If you'd like, you can bury Mary, just's well's not, right on the pasture knoll. It won't seem so hard to you—for she'll be kinder near home. An' you can look right where she is. I thought it wouldn't be quite so lonesome for her, being near you—and William.

"I love you well's ever.

NANCY."

She folded the note with her trembling fingers, then hurried out into the dark. She didn't stop this time at the pasture knoll, but hastened on toward the house opposite. When she reached the front yard she hesitated and whispered brokenly: "If Sarah'll only do it." Then she noiselessly groped her way to the doorsteps.

"I'll slip it right under the door, an' Sarah'll find it in the morning."

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The next afternoon Nancy noticed two men digging on the pasture knoll.

"Sarah'll be reconciled now," she said, eagerly—"Sarah'll be reconciled now!"

But all that day Sarah never appeared. Nancy simply waited.

"She'll come some time," she faltered.

That night after the funeral Nancy felt so lonesome that she started for the pasture knoll. Some one was kneeling by the new made grave. Her head was bowed, and she was talking to herself. Nancy approached cautiously, and knelt down by the other grave opposite. The dark robed figure remained motionless.

"Nancy was so good, Mary! You don't seem gone, now, but only as if you'd stepped out here to rest—and you won't feel lonesome. Oh, Mary, will she forgive me?" and with a sob, Sarah raised her head.

"Nancy," she cried, "can you for"—

"Oh, Sarah!"

And two sad lonely hearts were reconciled on the pasture knoll.—N. Y. Independent.

FRUITS AS FOOD AND MEDICINE.

That fruit has many uses besides pleasing the taste is well known, but the exact properties of each kind are not so well understood by the consumers, and a few suggestions on the subject may not be amiss, says the Christian Work.

Fruit alone will not sustain life for any great length of time, but helps to furnish a variety in the diet.

It stimulates and improves appetite and digestion, relieves thirst, and introduces water into the system, acts as a laxative or astringent, stimulates the kidneys, and supplies the organic salts necessary to proper nutriment.

Among the laxatives are figs, prunes, dates, nectarines, oranges and mulberries.

The astringents are blackberries, dewberries, raspberries, pomegrantes, quinces, pears, wild cherries, cranberries and medlars.

The kinds used for diuretics are grapes, black currants, peaches, whortleberries and prickly pears.

The refrigerants are red and white currants, gooseberries, lemons, limes and apples.

Apples are useful as a stomach sedative and will relieve nausea and even seasickness.

Grapes and raisins are nutritive and demulcent, making them excellent for the sickroom.

It is sometimes difficult to keep raisins, figs and dates away from the inquisitive little ants and roaches, but this is easily accomplished by putting them in paper bags that have been well brushed over with strong borax water and dried before the fruit is put in. The little pests do not like the borax and will not gnaw through the sack when thus prepared.

A fig split open makes a good poultice for a boil. It is especially good for gum boil. A split raisin is also good.

Lemons are useful in health or sickness. Hot lemonade is one of the best remedies in an incipient cold. It is also excellent in case of biliousness. For malaria the "Roman cure" is prepared by cutting the rind and pulp of a lemon into a pint of water, then boiling it until there is only a half pint. One teaspoonful is taken before each meal. This has cured obstinate cases when quinine failed.

Lemon syrup made by baking a lemon twenty minutes and then squeezing the juice upon half a cupful of sugar is excellent for hoarseness and to break up a cold.

A habit of looking for the best in everybody, and of saying kindly instead of unkindly things about them strengthens the character, elevates the ideals, and tends to produce happiness. It also helps to create friends. We like to be with those who see the divine side of us, who see our possibilities, who do not dwell upon the dark side of our life, but upon the bright side. This is the office of a true friend; to help us discover our noblest selves.—Ex.

"Boarding school."—Yes; Seres is the goddess of continued stories.

THE RIGHT KIND OF A BOY.

The other morning we were in the midst of a three-day's rain. The fire smoked, the dining-room was chilly, and when we assembled for breakfast papa looked rather grim, and mamma tired, for the baby had been restless all night. Polly was plainly inclined to fretfulness, and Bridget was undeniably cross, when Jack came in with the breakfast rolls from the baker's. He had taken off his rubber coat and boots in the entry, and he came in rosy and smiling.

"Here's the paper, sir," said he to his father, with such a cheerful tone that his father's brow relaxed, and he said, "Ah, Jack, thank you!" quite pleasantly.

His mother looked up at him, smiling, and he just touched her cheek gently as he passed.

"Top of the morning to you, Pollywog!" he said to his little sister, and delivered the rolls to Bridget with a "Here you are Bridget! Aren't you sorry you didn't go yourself this beautiful day?"

He gave the fire a poke and opened the damper. The smoke ceased, and presently the coals began to glow; and five minutes after Jack came in we gathered around the table, and were eating our oat meal as cheerily as possible. This seems very simple in the telling and Jack never knew that he had done any thing at all; but he had in fact, changed the whole atmosphere of the room, and had started a gloomy day pleasantly for five people.

"He is always so," said his mother when I spoke to her about it afterward, "just so sunny and ready all the time. I suppose there are more brilliant boys than mine in the world, but none with a kinder heart or sweeter temper, I am sure of that."—Epworth Herald.

RECIPES.

Boiled Salmon.—Select a small fish for this purpose, as a large one will not fit the ordinary sized fish kettle. Have in your kettle enough salted boiling water to cover the salmon, and add two-tablespoonfuls of vinegar to the water. Sew the fish up in a piece of firm cheesecloth, and lay it carefully in the kettle. After it begins to boil allow twelve minutes to the pound. When done take out of the water carefully, remove the cloth, and transfer the fish to a hot platter. Sprinkle with pepper and salt, and pour over it a well seasoned white sauce. Garnish the dish with slices of lemon and sprigs of parsley.

Baked Salmon.—Wipe your fish with a damp cloth, but do not lay it in water. Rub with a little salad oil, and sprinkle with salt and pepper. Lay in a baking pan, and dash over a cup of boiling water in which two tablespoonfuls of butter have been melted. Bake, covered, basting every fifteen minutes. When done transfer to a hot platter, and set in the open oven while you thicken the gravy left in the pan with cornstarch wet with cold water, and season it with lemon juice and a dash of onion juice. A little tomato catsup is an improvement. Boil up once and pour into a gravy boat. Send to the table with the salmon, which may be garnished with sprigs of parsley.

Salmon Steaks.—Have the steaks cut about an inch thick. Wipe with a damp cloth and lay in salad oil for an hour. Drain and put upon a gridiron over a clear fire. Broil slowly, rubbing with butter from time to time. They will take at least twenty minutes to cook and must be watched carefully that they do not scorch. When done put upon each steak a generous lump of butter and sprinkle with salt and pepper.

Cold Salmon with Mayonnaise.—Have boiling in a kettle a gallon of salted water, to which a gill of vinegar has been added. Lay carefully in this the salmon steaks, and let them boil very slowly. Test with silver fork, and when done, but not at all broken, lift carefully from the water and drain. Set aside until cool, then keep on the ice until wanted. Lay the steaks on a cold platter, and pour a very thick mayonnaise over them. Spread this smooth with a knife, that the steaks may be covered. Garnish with an abundance of watercress.

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Los Angeles Markets.

LOS ANGELES, July 2.

Butter continues firm, with good demand. Quotations same as last week.

Berries have gone to the bad. Canners saw the glut coming and cut prices to 2½ cents. This made disposal of surplus at a loss and gave a panicky feeling to the berry men

Watermelons at $1.75 to $3.50 per dozen are yet a luxury, though offerings are readily cleaned up.

The dried apricot market shows a decided upward tendency.

Report has it that most careful estimates are that not over 500 cars will be the year's output. This estimate is doubtless the cause of the upward look. Canners are also buying more freely than usual. Not over 50 cars of the old crop are left on the coast.

Butter.

B. of T. Creamery, per -lb roll		60
Coast Creamery	.55	
Cooking per lb	.22	25

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	.16	17
Domestic Swiss	.19	
Imported	.28	

Eggs.

Fresh Ranch	.20	21
Store, case count	.19	20

Potatoes.

New potatoes, per cwt	1.40	
Early Rose—seed	1.00	1.25

Beans and Dried Peas.

Limas	3.85	3.95
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white	.75	
Onions, red	1.10	
Onions, green	.10	
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.45	
Carrots, per sack	.85	
Peas, green, per lb	.03½	
Lettuce, per doz.	.10	
Lettuce, per sk	.60	
Radishes	.15	
String Beans	.02½	.03
Rhubarb, per doz	.40	

Fruits; Fresh.

Apricots, bx of 30 lbs	.40	
Cantaloupes—Per crate	2.50	6.50
Figs, per bx, 10 lb	.30	
Strawberries, bx, fancy	.05	
Raspberries, per box	.04	
Blackberries—Per box	.04	.05
Loganberries, per crate	1.00	
Currants, per box	.45	
Cherries, per box 10 lbs	.85	

Fruits; Dried.

Apricots	.04	.06
Pears	.07	.08
Peaches peeled	07	08
Peaches, fair to good, sks	.03½	05
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.06
London layers, per box	1.00@2.00	
Loose, per box	6¼	7

Poultry.

Spring chickens	.15	.16
Hens, No. 1, per lb	.12½	13
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22	.23
Ducks, per lb	.10	.13

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	4 00	5 00

Hay and Grain.

Barley hay	8.50	13.00
Alfalfa, large bales	9.00	10.00
Wheat Hay	9.00	12.00
Barley, old		1.30
Barley, new crop	.70	.80
Corn, per ctl		1.40
Wheat	1.60	
Oats	1.35	1.40
Bran		1.15
Rolled Barley		1.25

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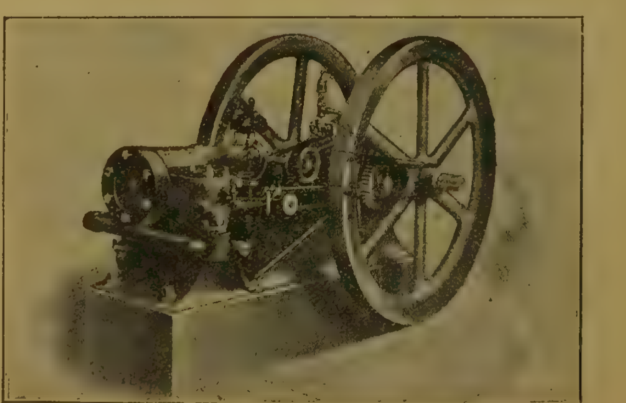

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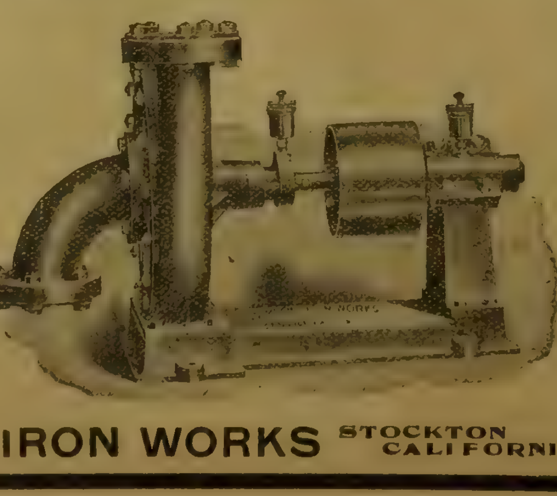

SAMSON IRON WORKS STOCKTON CALIFORNIA

San Francisco Markets.

SAN FRANCISCO, July 2.

Dairy.

Butter is slightly easier, though the top quotations are same as last week. Some anxious holders are offering to shade slightly and buyers seem conservative. Cheap grades seem to be in the market in excess which may cause much of the unsettled condition.

Quotations on butter are, per pound:

Creamery, extras	.25	@26
Creamery, firsts	.23	@24
Creamery, seconds	.22	
Dairy, extras	.22	@22½
Dairy, firsts	.20	@21
Store	.18	@19

Cheese remains the same as last week, no indications of change.

Calif. Creamery, mild new, extra	.12	@12½
Calif. Creamery, mild, new, choice	.11	@11½
Young America	.12	@13
Eastern, New York Cream, Chedders and flats	.18	@19

Eggs and Poultry.

Eggs are offered in large quantities and have taken a slight decline. At the quotations below the top quotations are seldom secured and buyers are careful in selecting extra stock. Quotations are:

EGGS—Per doz:

Ranch, selected, large	.20	
Ranch, good to choice	.18	@19
Store	.15	@16
Eastern	.16	@18

POULTRY—Old Roosters, per doz., 5.00@5.50; young Roosters, $8@10; Fryers, $5@6; Broilers, large, $3.50@4; small, $2.50@3; Hens, $4.50@6; Ducks, per doz, old, $3.50@4.50; young, $4@5; Turkeys, nominal; Geese, per pair, $1@1.50; Goslings, $1@1.50; Pigeons, per doz, young, $1.75; do, old, $1.50@1.75.

Fruits and Vegetables.

The demand for fruits continues good. Of course the supply is enormous, so the price rules low. There are, however, continued shipments to northern points which equalize the market and prevents glut.

Apples and pears are coming in more freely. Small stock goes at low prices and slow sales. Large clean stock commands top quotations. The first Bartlett pears of the season arrived during the week.

Cherries are materially falling off in receipt but this does not seem to stimulate expected higher prices.

Coachella valley still supplies cantaloupes, some days noting the arrival of two or three cars.

Grapes are arriving, but are of indifferent quality.

Berries have as yet held firm at good demand.

Vegetable market has proved strong, with top quotations. Old potatoes are in good demand for seed for fall crop with supply getting low.

Quotations are:

FRESH FRUITS—Apples—Green, per bx. common to choice, 25@75; fancy, $1@1.25.

CHERRIES—Per bx: Black, 50@90; Royal Anne, 40@85; white, 35@65; bulk, per lb: Black, 5@7; Royal Annes, 5@6½; White, 2½@4.

PEACHES—Per bx, 50@75; basket, 50@75.

PEARS—Per bx, 35@$1.15; basket, 20@35c.

PLUMS—Per bx or crate, 25@85c; basket, 15@30c, as to variety; Tragedy prunes, 65@85c.

FIGS—Per bx, 35c@$1.25.

APRICOTS—Per bx or crate, 50@75c; basket, 35@50c; bulk, per ton, $20@30.

CANTALOUPES—Per crate, $2.@3.50.

NUTMEG MELONS—Per bx, $2.

WATERMELONS—15@35c.

GRAPES—Per crate: Seedless, $1.50@1.65.

BERRIES—Per chest: Strawberries—Longworth, $6@8; large varieties, $2@3.50; Blackberries, $3@4; Raspberries, $4@8; Loganberries, $1.50@2.50; Currants, $2@3.50.

CITRUS FRUITS—Per bx. repacked: Oranges, Navels, $1@2.50, as to quality; Valencias, $2@3; St. Michaels, $2@3; Seedlings and Mediterranean Sweets, $1@1.25; Lemons, $1@3; Grape Fruit, $1@2; Limes, $5.50@6.

VEGETABLES—Asparagus, per box, $1@2; Rhubarb, per bx, 40@65; Tomatoes, local, per bx or crate, $1@1.75; do, River, large bx, $2@2.50; Green Peppers, per lb, 10@15c; Dried Peppers, 6c; String Beans, per lb, 4@7; Wax, 4@7c; Green Peas, per lb, 4@5c; Egg Plant, 15@20c; Summer Squash, per bx, 25@40c do, bay, 50@75c; Cucumbers, per bx, 40@60; do, bay, $1@1.50; Garlic, per lb, 2½@3½c; Green Corn, per sk, $1@1.75; crate, $2@2.50; Okra, per lb, 25c.

ONIONS—New Silver Skins, per ctl, 65@75; Red, 40@50c.

POTATOES—Per ctl: New Whites, $1.15@1.75; Early Rose, $1.15@1.35; Garnet Chile, $1.25@1.35; old Oregon Burbanks, $1.50@1.75.

BEESWAX—Per lb, 32c.

HONEY—New Comb, per lb, White, 14c; Light Amber, 13½c; Extracted Water White, 6½c; Light Amber, 6c; Dark Amber, nominal.

Dried Fruits, Nuts, Etc.

DRIED FRUITS.—Prices for carload lots, f. o. b. at Calfornia common shipping points, in bags, for 1902 crop, are, per lb., as follows:

Apricots—Royal, 6½@8½c; Moorparks, choice, 9c.

Peaches—4¼@6½c; peeled, in boxes, nominal.

Pears—4¾@9½c.

Prunes—Four sizes, 60s to 100s, 2⅝@3c, with ½@1c premium for large sizes.

Nectarines—Whites, 4@5½c.

Figs—White, 5½@6c; Black, 5c.

NUTS—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 6c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown, $1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16 oz., 7¾c; 12 oz., 6¼c; bulk, 7½c; choice, 16 oz., 7½c; 12 oz., 6c; bulk 7¼c.

BEESWAX—Per lb., 28c.

HONEY—Comb, per lb., nominal; Extracted Water White, 7c; Light Amber, 6½c; Dark Amber, 5c.

Live Stock.

Beef cattle are slightly under last week, though quotations remain same. Top prices are not receivd. Hogs are the reverse with increased quotations.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb, 5@5½c, gross weight; heavy, 4½@4¾c gross weight.

SHEEP—Per lb: Fat wethers, No. 1, 4@4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 140 lbs and over, 6¼@6½c; weighing under 140 lbs, 6@6¼c; weighing 260 to 350 lbs, 5½@6c; rough heavy, 5½@6c.

Hay and Feed Stuffs.

HAY—Prices on new hay, per ton: Wheat, $10@12.50; Wheat and Oat, $10@12; Oat, 8@11.50; Barley, $8@11; Clover, $8@10; Alfalfa, $8.50@10.50.

STRAW—Good to choice, per bale, 42½@55c.

FEED CORN MEAL—Choice grades, per ton, $27.50@28.50.

GROUND BARLEY—Per ton, $21.50@22.50.

MIDDLINGS—Per ton, $27.50@28.50.

BRAN—Per ton, $24.50@25.50.

CRACKED CORN—Choice quality, per ton, $28.50@29.50.

RICE MEAL—Mill price, $18 per ton.

BEANS AND SEEDS.

There are moderate sales in some descriptions of Beans, but, taken as a whole, the market is quiet and devoid of features with holders showing no inclination to force sales. Some slight fluctuations are noted in values for a few descriptions, but are regarded with little importance. Mustard seed is slightly steadier.

BEANS—Prices per ctl: Large Whites, $3@3.15; small, do, $3.15@3.30; Pea, $3.25@3.50; Lima, $3.50@3.65; Red, $2.90@3; Pink, $3@3.15; Bayo, $3.65@3.75; Blackeyes, $2.75@3; Red Kidneys, nominal.

Hops.

The prices for new crop are 18 @20c per lb, according to quality.

MARKET NOTES.

The grain crop is coming into market and being stored in warehouses.

Sweet potatoes will be a heavy yield in Southern California this year.

The walnut crop will be comparatively light as compared with last year. Some growers assert that the shipments out will be not over half.

The canneries are now busy putting up berries and apricots. From $15 to $20 per ton is the ruling price for apricots delivered to canneries.

A New York eastern agent for California fruit firms is quoted as saying that California will ship from seventeen to nineteen hundred carloads of green deciduous fruit this year.

Canneries over the state are reported as buying very freely of fruit, and the pack will be a record breaker.

The Stockton water front now exhibits a lively scene with the newly arriving grains from the San Joaquin valley.

Grapes about Cloverdale show some light bunches.

The Commercial Museum forwards the following from U. S. Consul James Johnston at Palermo, Italy: The present condition and prospect of the summer lemon crop is good in quality but scarce in quantity. They compare favorably with those of last year and are of the usual quality, but the quantity is about one-third less than that of last year.

Prunes are looking up. The Journal of Commerce recently said.

There is noted on the spot a marked firmness 40-50s and 50-60s prunes. Supplies are believed to be in close compass, and on the first size some business is said to have been done at 7c in 25-lb boxes Santa Clara stock. So far as can be learned, there are no offerings of 50-60s in Santa Claras under 5½c and some Visalia fruit is available at 5⅝c. On the smaller sizes the market shows a hardening tendency. Business for export account is reported. Discussing the situation today, a prominent dealer said: "The position is good and I believe this market will be looking for supplies of the larger sizes before the middle of July. The market at the moment is not ready for futures, and the few prices made have attracted only a small buying interest."

Eastern Markets.

Grain and Produce.

CHICAGO, July 1.—The sentiment in the wheat pit was generally bearish, and with more rains reported throughout the Northwest and the harvesting weather in the Southwest, there was considerable selling pressure throughout the entire day. Opening prices were easier on lower cables and better weather conditions, September being a shade higher to ⅛ to lower at 76¼@76⅜. Fair buying by the commission houses, together with the advance in corn caused a firmer feeling early in the day, and the price advanced gradually to 76½, but later reacted again on a less urgent demand. The weakness at St. Louis, due partly to the arrival there of several cars of new wheat, was a bear factor late in the day. After selling at 75½, September closed ¾ lower, 75½@75⅝. Corn was strong a large part of the session, due to the buying of some local bulls supporting the market, but fine weather and the weakness of wheat were influences that overbalanced all else, and weakness prevailed late in the day. September

closed ⅛c lower, at 50⅛. Oats were influenced mainly by the situation in corn, but the general sentiment was bearish. September closed ¼ lower, at 33¾. Provisions opened easier on fair receipts of hogs, but buying by local and outside houses caused a rally, and the market was quite active at times. September pork closed 15c higher, at 15.27½; September lard was unchanged at 8.50, while September ribs were 2½@5c lower at 6.70.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 78; No. 3, 74@77; No. 2 red, 76½@78: No. 2 corn, 50½ @50¾; No. 2 yellow, 50@50¾; No. 2 oats, 39⅛; No. 3 white, 38½@39¾; No. 2 rye, 30½; good feeding barley, 43@45; fair to choice malting, 49@52; No. 1 flax seed, 99; No. 1 Northwestern, 1.01.

Grain Movements.

$5.75@$5.85. Sheep.	Receipts,	5000;
Flour, barrels	25,900	18,200
Wheat, bushels	58,700	30,600
Corn, "	616,300	194,700
Oats, "	753,400	222,100
Rye, "	14,400	......
Barley "	78,100	4,000

On the Produce Exchance today the butter market was steady; creamery, 16@20; dairy, 15@18; eggs steady at mark, cases included, 12½@14; cheese steady, 10½@11½.

Chicago Live Stock.

CHICAGO, JUNE 1.—Cattle: Receipts 20,000 including 2000 Texans; market slow and lower; good to prime steers, 4.90@5.50; poor to medium, 4.25@4.90; stockers and feeders, 2.75@4.70; cows, 1.60@4.40; heifers, 2.50@4.75; canners, 1.60@2.80; bulls, 2.50@4.25; calves, 1.50@4.25; Texas fed steers, 3.50@4.50. Hogs: Receipts today, 22,000; tomorrow, 25,000; left over, 3500; mixed and butchers, 5.70@5.90; good to choice heavy, 5.80@5.85; rough heavy, 5.00@5.75; light, 5.80@6.05; bulk of sales, $5.75@$8.85. Sheep: Receipts, 5000 sheep and lambs slow; good to choice wethers, 3.75@4.25; fair to choice mixed, 3.00@3.75; western sheep, 3.50@4.15; native lambs, 4.00 @4.65; western lambs, 4.00@4.50.

California Dried Fruits.

NEW YORK, July 1.—The market for evaporated apples continues quiet, and shows little change from the general conditions recently noted. common, 4@5; prime, 5½; choice, 6; fancy, 6½@7½. Spot prunes continue to attract a fair jobbing demand at prices ranging from 3 to 7 for all grades. Apricots are firm at 7¾@8½ for choice and 10@12½ for fancy. Peaches are firm, with choice at 7@7½ and fancy at 8@10½.

NEW YORK GENERAL MARKET.

NEW YORK, July 1.—Wheat: Spot easy; options closed ⅜ to ⅞c net lower. July closed 83½; September closed 80⅛; December, 80¼. Hops, dull. Hides, steady. Wool, firm.

CITRUS MARKETS

ORANGE MARKETS.

The eastern auctions the past week have, as anticipated, brought very satisfactory prices for all varieties of oranges in fair condition and in most cases are showing a steady front, but stocks in sight for the various points have not diminished and the average of last week's shipments promise heavy supplies for a dull after holiday market.

Trading in the west has been fairly active at good prices in most cases, St. Louis and Buffalo being exceptions. Recent shipments are beginning to show greater weakness, and seedlings sweets, etc., now going out, seem in some cases, lifeless and with no carrying qualities. Even Valencias have in some cases arrived in the markets showing quite a heavy percentage of decay. Showing that from some sections shipments of this variety must go out promptly. What few cars of these have sold in auction markets have brought quite satisfactory prices and if we ever get through with shipping seedlings sweets and navels the markets should take properly distributed shipments of Valencias at quite satisfactory prices.

* * *

LEMONS.

The lemon market has continued in a ver, unsatisfactory condition with some improvement to be noted under more fa ble weather conditions, but a general "hot spell" is needed to help out the lemon people and no one can say when this is coming. The cool weather has undoubtedly been of great benefit to the orange market.

EASTERN AUCTIONS.

BOSTON, JUNE 24.

Market steady.

C. C. A., Riverside, Ruby navels, $3.20.

O. K. Fr. Ex., Quail navels, 5 per cent decay, $2.95.

S. B. Fr. Ex., Arrowhead sweets, 5 per cent decay, $3. Carrier sweets, 10 per cent decay, $2.65.

Arlington H. Fr. Co., Squirrel lemons, 10 per cent decay, $1.70.

Palm Tree lemons, 15 per cent decay, $1.15.

A. C. G. Fr. Ex., Pointer navels, 10 per cent decay, $2.05.

C. C. U., Whittier, Rancho Yellow lemons, 15 per cent decay, $1.25. Rancho Green lemons, 15 per cent decay, $1.35.

NEW YORK, JUNE 24.

Riverside Fr. Ex., Uncle Sam navels, 10 per cent decay, $2.25. Fiesta navels, 25 per cent decay, $1.75.

S. A. Fr. Ex., Goddess mikes, $3.05. Parrott Homosassas, $2.05. Parrott sweets, 5 per cent decay, $2.25. Tangerines, $1.90.

O. K. Fr. Ex., Quail navels, 7 per cent decay, $2.85.

Riverside Fr. Ex., Blue Print navels, 10 per cent decay, $2.60. Blue Print mikes, 5 per cent decay, $2.70.

C. C. U., Redlands, Thoroughbred mikes, 3 per cent decay, $2.85.

PHILADELPHIA, JUNE 24.

Market steady.

C. C. U., Chapman Mission Bell bloods, $2. Victory bloods, 10 per cent decay, $2.05.

C. C. U., Redlands, Blossom sweets, 10 per cnt decay, $1.65.

C. C. U., Riverside, Our Favorite navels, $2.45. Daisy navels, $2.15.

C. C. U., Pasadena Texas bloods, $1.65. Texas sweets, $1.85. Texas Valencias, 10 per cent decay, $2.10.

CLEVELAND, JUNE 24.

Market very steady.

C. C. U., E. Highlands, Highland sweets, 3 per cent decay, $2.95.

S. S. Fr. Ex., Choice mikes, 5 per cent decay, $2.40.

Riverside Fr. Ex., Red Globe seeds, 15 per cent decay, $2.05.

C. C. U., Riverside, Our Favorite navels, $3.15. Daisy navels, 10 per cent decay, $2.65.

NEW ORLEANS, JUNE 24.

Market weak.

O. K. Fr. Ex., Choice lemons, 25 per cent decay, $1.95.

Q. C. Fr. Ex., Corona lemons, 40 per cent decay, $1.65. Grove lemons, $1.55.

C. C. U., Redlands, La Belle sweets, 20 per cent decay, $1.75.

PITTSBURG, JUNE 24.

Market advancing.

O. K. Fr. Ex., Quail navels, $2.35. Owl, $2.30.

C. C. U., Pasadena, Arbutus Valencias, $2.30. Texas seeds, 20 per cent dcay, $2.10.

O. K. Fr. Ex., Quail navels, $2.30. Owl, $2.30.

Riverside Fr. Ex., Criterion navels, $2.10; Red Print seeds, 10 per cent decay, $1.90.

S. A. Fr. Ex., Pet lemons, $1.75. Meteor, $1.70.

CINCINNATI, JUNE 24.

Market is weak.

Riverside Fr. Ex., Blue Globe seeds, $2.45. Red Globe seeds, $2.30.

Covina Fr. Ex., orchard run lemons, 15 per cent decay, $1.80.

S. S. Fr. Ex., Standard sweets, $2.35. Standard mikes, 12 per cent decay, $2.10.

NEW YORK, JUNE 26.

Market very strong.

Riverside Fr. Ex., La Mesa navels, $3.10. Golden Rule navels, 10 pr cent decay, $2.65.

C. C. U., Pasadena Victory sweets, 12 per cent decay, $2.25. Victory navels, 7 per cent decay, $2.35. Victory seeds, 5 per cent decay, $2.15.

C. C. U., Corona Excelsior lemons, 15 per cent decay, $1.25.

C. C. A., N. Pomona, Lilac navels, 15 per cent decay, $2.20. Peacock, 7 per cent decay, $2.65.

BOSTON, JUNE 26.

Market advancing.

O. K. Fr. Ex., Bear sweets, $3.10; Quail, $2.95.

Riverside Fr. Ex., Red Print sweets, $3.25; Blue Print seeds, $3.15.

Q. C. Fr. Ex., Royal lemons, 15 per cent decay, $1.50. O. I. C. lemons, 15 per cent decay, $1.45.

C. C. U., Rialto Marguerite sweets, 10 per cent decay, $2.75.

Riverside Fr. Ex., Blue Mt. seeds, 10 per cent decay, $2.55. Red Mt. seeds, 15 per cent decay, $2.

PHILADELPHIA, JUNE 26.

Market steady.

Riverside Fr. Ex., Red Print navels, 10 per cent decay, $2.05. Challenge navels, 15 per cent decay, $1.80.

C. C. U., Lindsay Monogram Valencias, $2.80.

O. K. Fr. Ex., Quail lemons, 25 per cent decay, $1.05.

C. C. U., Riverside, Turquoise seeds, $1.85.

PITTSBURG, JUNE 26.

Market advancing.

C. C. U., Whittier, Pansy Valencias, $3.60.

C. C. U., Santa Ana Dragon sweets, $2.55.

C. C. U., Burnett Standard lemons, 17 per cent decay, $1. Choice lemons, $1.05.

S. T. Fr. Ex., Our Farm Valencias, 40 per cent decay, $1.45.

CINCINNATI, JUNE 26.

Market advancing.

S. A. Fr. Ex., Parrott mikes, $2.50.

S. S. Fr. Ex., S. S. choice sweets, $1.75.

CLEVELAND, JUNE 26.

Market advancing.

C. C. U., Orange, Texas mikes, $2.05. Bison mikes, 15 per cent decay, $1.90.

A. H. Fr. Co., Palm Tree lemons, $2.80.

Riverside Fr. Ex., orchard run seeds, $2.05. Uncle Sam bloods, $2.40. Fiesta bloods, 10 per cent decay, $1.95.

NEW YORK, JUNE 29.

C. C. U., Redlands, Stearns Mikes, $2.70.

C. C. U., Santa Ana, Trumpter mikes, $2.35. Dragon, $2. Trumpeter sweets, 20 per cent decay, $1.70.

C. C. U., Riverside, Turquoise seeds, $2.20.

Riverside Fr. Ex., La Mesa navels, $3. Golden Rule, $2.60. Golden Rule mikes, $2.40.

A. H. Fr. Co., Squirrel lemons, 10 per cent decay, $1.85.

Q. C. Fr. Ex., Corona lemons, $2.25. Grove lemons, $1.80.

O. K. Fr. Ex., Quail navels, $2.85.

PITTSBURG, JUNE 29.

Market steady.

O. K. Fr. Ex., Quail navels, $3. Owl, $$2.65. Owl sweets, $2.85.

C. C. U., Lindsay, Blossom Valencias, $3. Standard Valencias, $2.70.

Riverside Fr. Ex., Red Print seeds, $2.50.

C. C. U., Monrovia, Lilac lemons, 15 per cent decay, $1.35. Lighthouse lemons, 15 per cent decay, $1.10.

S. A. Fr. Ex., Parrot seeds, $2.70; Parrot mikes, $3.

Q. C. Fr. Ex., Leader navels, $1.75. Monogram, $1.70.

CLEVELAND, JUNE 29.

Lemon market advancing.

C. C. U., Lindsay Blossom Valencias, $1.95.

S. T. Fr. Ex., Carmencita Mikes, $2.75.

Covina Fr. Ex., orchard run lemons, 20 per cent decay, $1.90.

BOSTON, JUNE 29.

Market steady.

C. C. U., Redlands, Monogram sweets, 15 per cent decay, $3.

C. C. U., Riverside, Turquoise seeds, 15 per cent decay, $2.65.

C. C. U., Windemere, Standard lemons, $1.80.

La Mirada lemons, $1.55; Windemere, $1.40.

PHILADELPHIA, JUNE 29.

Market advancing.

Riverside Fr. Ex., Red Globe sweets, $2.30. Mikes, $2.45.

A. C. G. Fr. Ex., Stag Valencias, $4.30. Pointer Valencias, $2.95. Hunter, $2.20.

Riverside Fr. Ex., Golden Rule sweets, $2.30. La Mesa Homossas, $2.55.

S. A. Fr. Ex., Parrot sweets, 10 per cent decay, $2.

C. C. U., Covina, Sapphire sweets, 10 per cent decay, $2. Turquoise mikes, 15 per cent decay, $2.20.

CINCINNATI, JUNE 29.

Market steady.

S. S. Fr. Ex., S. S. S. sweets, 10 per cent decay, $2.05.

A. H. Fr. Co., Palm Tree lemons, $2.30.

Riverside Fr. Ex., Red Mt. seeds, 10 per cent decay, $1.95.

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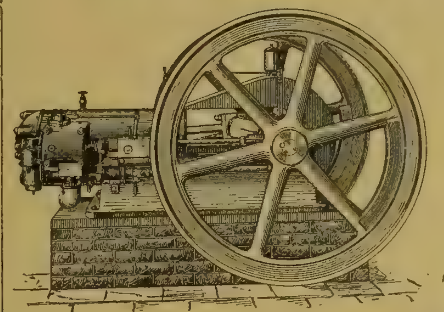

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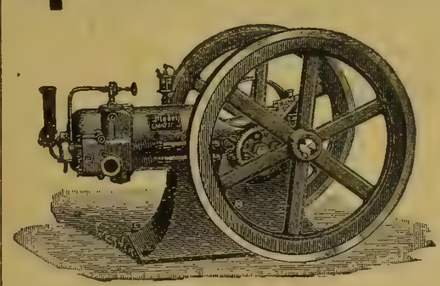

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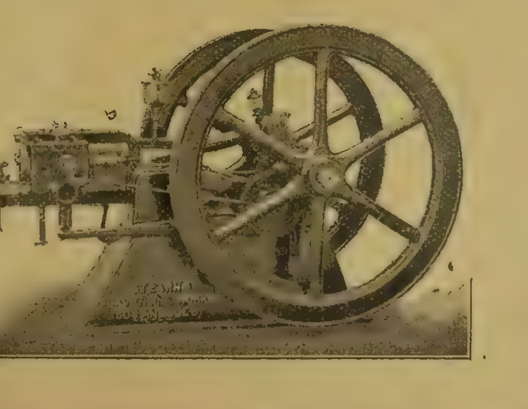

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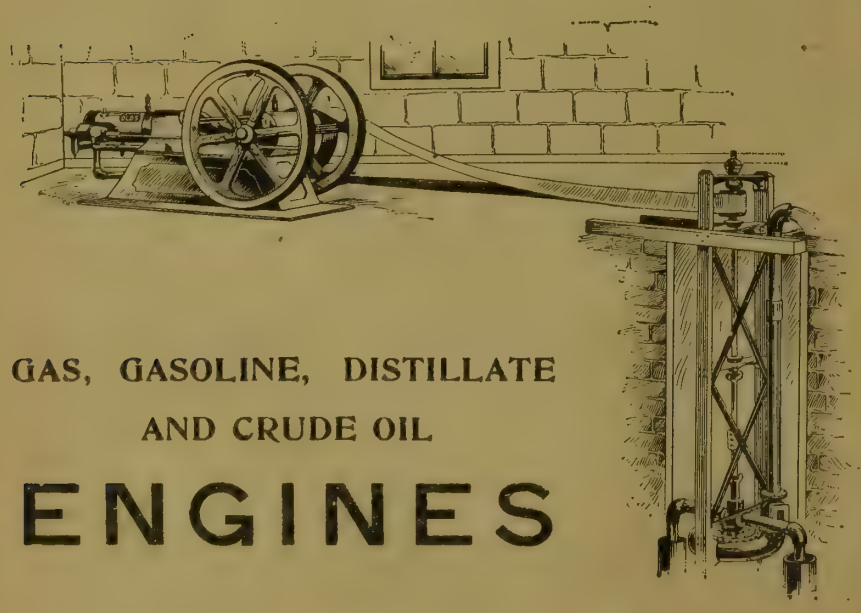

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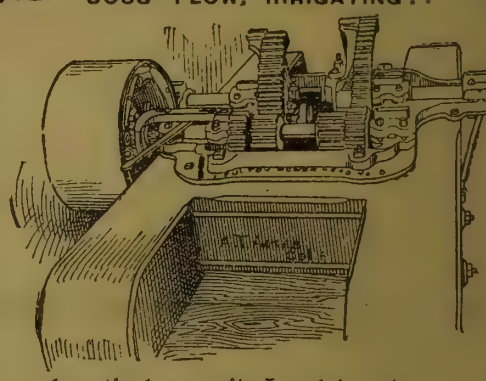

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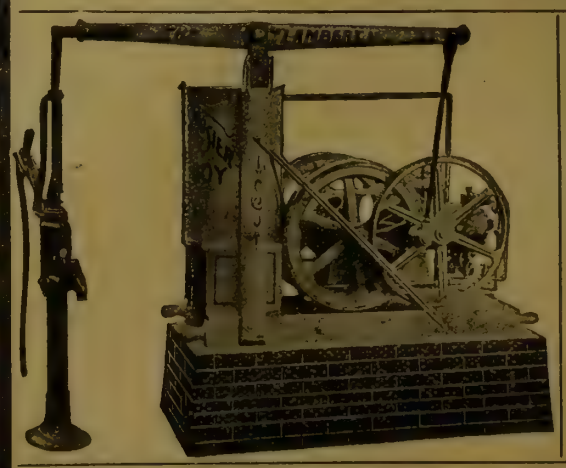

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Vol. XXI—No. 2 LOS ANGELES, CAL., FRIDAY, JULY 10, 1903 Subscription $1 a Year

The Prune in California

BY JOHN ISAAC, SACRAMENTO

The California prune from its first introduction has held a foremost place among the fruit products and exports of the state. It grew rapidly in popularity and for some years was enormously profitable, but of late years the output has increased so rapidly that the market has become glutted and it has approached very close to, if, indeed, it has not sometimes crossed the line, between profit and loss.

WHEN INTRODUCED.

It is to Louis Pellier, a Frenchman and a "'49'er", that California is indebted for what is now known as the California French prune, or Petit prune d'Agen. This was in 1856, when Pellier returned to France and secured a stock of French fruits and vines, among them the one that was to add so largely to the wealth and prosperity of his adopted state. It was nearly 20 years, however, before the importance of his importation began to be realized, and at that time the prune fruit entered the field as a commercial product and since then has continued to grow in importance until we are now producing over 150,000,000 pounds annually, and in a good season the output would reach very much beyond these figures.

FAVORITE CONDITIONS.

With respect to soil, the prune will thrive on a much wider range than either the apricot or the peach. It will grow well on heavy or light soil and thrives beside the peach and apricot or the apple and pear. In fact, wherever the greengage plum will grow, the prune will do well. It will stand severe winters, and zero weather does not seriously affect it. Its favorite conditions, however, are a warm, generous soil and a temperate climate. California's superiority for prune-growing is found in her advantages of soil and climate, the former giving a fruit excellent in saccharine constituents and the latter facilities for economical curing that no other state possesses.

The prune, unlike many other varieties of fruit, is a faithful bearer; it does not take a season's rest, but can be relied upon to yield each year. Of course, there may be contingencies, as a late frost, or other unforseen circumstances to cause a shortage, but aside from these the prune will give annual crops.

KIND OF ROOT.

One of the chief matters to be considered in planting a prune orchard is the soil, for while the prune adapts itself to any soil, the stock upon which it grows may not. Uuon a light, sandy soil, well drained, not too moist, peach stock should be used. Upon the heavier lands, clayey and damp, the wild plum stock—Myrobolan—should be selected. Upon light soil, with a rocky subsoil, almond stock is the favorite. On no account should apricot stocks be used, as the prune and apricot will not make good connection, and the unfortunate planter of such is liable to find, when his trees have nearly got their growth and have heavy tops, his orchard some morning lying prone on the ground with only broken stumps where the trees stood.

VARIETIES.

There are a number of varieties of the prune, in fact, all plums are prunes, the fruit we commonly designate as the prune being simply a plum that possesses extra drying qualities, firmness of flesh, drying readily without fermenting at the pit. The favorite of all varieties grown in California is the French prune , the Petit prune d'Agen, or the California prune, as it is variously called. In fact, so largely does this preponderate that other varieties can hardly be considered in its connection. Of other varieties which are grown here, the Robe de Sergent, silver prune, Hungarian and German prunes are strongly recommended and do well.

PLANTING AND PRUNING.

In planting, the trees should be set not closer than eighteen feet. Twenty feet is better and is the favorite distance, but some of the older growers ecommend twenty-four feet. On very strong soil the greater distance would be the better, as there is danger that the mature trees will interlace their limbs and render picking and cultivating difficult.

The prune is a rapid grower and a prolific bearer. The young orchard, if properly cared for, will yield some returns when three years old, a profit the fourth year and increase its output until at seven or eight years it will be in full bearing. A five-year old orchard will yield from fifty to sixty pounds to the tree this will be doubled the sixth year.

The work of shaping and training the young tree should be completed by the time it is four years old. In this the judgment of the grower must again be exercised. There are two general methods of pruning, the high and the low, and each has its advocates. It is urged in favor of high training that it is easier to plow and cultivate the orchard, the work all being done by horses, whereas in low pruning much has to be done by hand. In favor of low pruning it is urged that the trees shade themselves in their own foliage, are not liable to sunburn, and their fruit is easier harvested. Low pruning is the best, but high or low, the grower must begin the work of training his trees the first year, in fact from the time of planting. In low pruning, when planted cut them back to about eighteen inches and shade them on the south side with a clapboard. Three or four buds may be allowed to grow at the top and the terminal buds of those below should be pinched back. This will cause them to put out leaves and shade the stalk the first season. The second year these must all be removed and the permanent branches cut back to about a foot in length the third year cut the new growth back to about two feet. In pruning, buds should be selected on the upper side of the limbs, these having greater weight bearing power than those on the under side. The grower must have in view the form of the tree he desires from the time it is planted and form it into this shape each year until it has attained its growth. After the fourth year the only pruning required will be the removal of surplus twigs, cross limbs and the unfruitful wood. The season for pruning is as soon as the sap stops flowing, and no danger is to be apprehended from "bleeding."

GATHERING THE FRUIT.

The growing of prunes is the least important part of the work, their preparation for market forming the bulk of the actual work and demanding the greater skill and judgment.

When the fruit passes from light reddish to purple and begins to wither on the tree, it is ready to gather. It should be thoroughly ripe when picked or it will lack the rich flavor which makes the prune valuable. Picking the prune is one of the most particular jobs the grower has and many of our leading prune growers pick their orchards over several times, taking only the thoroughly ripe fruit until the last picking, when they gather all that is left on the trees. Some growers allow the fruit to fall on the ground and gather it, others spread a sheet under the trees and shake them gently to cause the ripe fruit to fall. The sheet is then taken by the corners and the fruit turned into boxes and loaded on a wagon.

PREPARING FOR MARKET.

The drying process comes next. The fruit is first graded, being run through a machine gauged to the desired sizes. There are different machines made for this work, some of wire screens, with meshes of different sizes, others with rollers set at an incline and at an angle to each other, permitting fruit of the desired size to pass through. As good a grader as any is a riddle about twelve feet in length, with different sizes of wire screen on it. The first screen chould be of small mesh to allow the leaves, stems and dirt only to pass through, the others should be graded to the size of the fruit. This machine should be hung with a rope at each corner and at a slight incline. The fruit is put in at the top and a gentle oscillating motion causes it to fall through the meshes into boxes placed to receive it. The smallest fruit finds its way through the first screen, the larger passing on down until at the end of the grader the largest fruit is left.

The prune has a tough skin and if left in its natural state would not dry readily. To overcome this it must be dipped in boiling lye. This thins the skin, causes it to crack, and permits the moisture to evaporate. The usual

(Continued on page 21)

HUNDREDS OF TONS OF PRUNES.—Prune drying yard at Campbell, near San Jose, California. Doubtless one of the largest spreads of prunes ever made. This cut is made for the Cultivator from a five-foot panorama photograph, now in the Peck Tourist Bureau office in this city.

CALIFORNIA CULTIVATOR

ESTABLISHED 1889
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, July 10, 1903

Circulation this issue 8,000

Col. Steadman, Editor of the Cultivator, is taking an outing and attending to business interests at his stock ranch near Council Bluffs, Iowa.

The Wine Association of Central California does not intend to manufacture as much wine this as last year. One reason is the inability to secure sufficient cooperage.

Prof. Cook in his reply to a correspondent this week, referred to bees which injure drying fruit, and spoke of the great good these same insects also do, in aiding us to secure large fruit crops. While this must be admitted to be true, we must also confess that it is very exasperating for the fruit drier, who at much expense prepares and places on trays, valuable fruit, to see the bees carry away a large part of it. We have no remedy to suggest for it unless it be that the owners of the bees should during the fruit drying season provide other good pasturage for their bees. Meantime let the fruit growers and owners of bees be neighborly and "give and take."

FAIR AND FAIRS.

The coming State Fair at Sacramento promises to be a big success—an Agricultural fair. The coming Los Angeles "Agricultural fair promises to be a crack-a-jack hoss race with pool selling and things. The "farmers" attending will wear plug hats, paste diamonds, a cigar and possibly a cane and some other garments. This prosperity will be far more apparent than that of the farmer who goes to an ordinary "pumpkin" show where fruits, flowers, grain and other products of the soil, with thoroughbred stock and farm appliances are gathered for an instructive display of the resources of the country.

As to whether the State Fair will be true to the promises remains to be seen. Certainly present indications are good. A little later it can be determined as to whether these are only promises and the political grab-bag-boss-race combination will there prevail or an honest fair be given us.

GETTING FERTILIZER FACTS.

Frank L. Palmer, of Pomona, who is requested to lead in the discussion of the subject of fertilization at the Seaside Institute to be held at Long Beach July 27 to Aug. 1, is going after the subject with his usual thoroughness . He has prepared and mailed to many of our best orchardists a circular with questions covering almost the entire range of fertilizing. To give a better idea we quote the first of the circular:

My dear Sir: Prof. Cook has asked me to lead a discussion on the subject of fertilization at a Seaside Institute he has planned to hold at Long Beach July 27th to August 1st. I know of no way in which this discussion can be made more profitable and interesting than by presenting the opinions of a large number of our representative orange growers as to some problems relating to fertilizing, upon which prevailing ideas are supposed to differ. With this thought in view I have prepared the following list of questions, and if you will be so good as to take the trouble to answer them it will be very much appreciated not only by myself but also, I am sure, by all who attend the Institute, or who read the reports of the proceedings. I hope to have replies from forty of fifty different persons who have given the subject some thought, and if I receive a sufficient number of responses I will undertake to tabulate them, and I feel confident that these responses will form a basis for some conclusions that will prove very interesting and also valuable.

Have you known of stable manure being used exclusively on the same orange or lemon trees for five consecutive year, or more, and what was the result? Did the quality of the fruit deteriorate under this treatment? What was the nature of the soil? Have you known of the same character of commercial fertilizer (complete fertilizer) being used exclusively on the same orange or lemon trees for five consecutive years, or more, and what was the result? Did the quantity of fruit increase satisfactorily from year to year? Did the quality deteriorate?

And so on for thirty or forty questions. It should gather together a mass of information of value to orchardists.

The committee have secured a fine camping ground on the bluff which will be free to all who come to attend the Institute. This will bring the expense within the reach of all. As the Institute is under the auspices of the University, it is, of course, free to all.

THE NEW YEAR BOOK.

This office is in receipt of the Year Book of the Department of Agriculture for 1902. It is a book of over 900 pages, in two parts. First there is reports from the various heads of divisions and is more or less of value as business and executive matter of the department.

Part two contains reports from field workers and articles of great value to the farmers of the country. These articles are made of greater value by a large number of illustrations, some colored, and many maps and diagrams.

There have been a half a million copies issued and the books are for free distribution to applicants for them. Write to your Congressman or Senator for the book. It does not contain so much of direct interest to farmers on the Pacific coast as some past numbers have, yet it is of great value to all.

Mr. Day of Pasadena informs the Cultivator that the black scale are hatching later and more nearly all at the same time this year than usually. Due largely, doubtless, to the wet and cold spring holding back the early hatch. The uniform hatch will facilitate and make more effective the work of spraying and fumigating.

This work will begin within the next few weeks and continue for some months. Mr. Day says that the grower may defer as long as possible if he will only watch his scale and use the remedy before the shell gets too old and hard to be reached. This stage will soon be reached after the scale begins to take on black or blue black color and get very shiny. By watching in this way and holding over as long as possible more of the young will be out of the shell and the destruction more complete.

A FUTURE FOR OUR FRUIT INDUSTRY.

Every once and a while, especially when the demand lessens, and prices are poor, there goes up a great outcry about the over-production of fruit, and we are urged to stop planting more trees and increasing the yield. The trouble is we always want the other fellow to stop and dig up his trees to give us a better whack at the markets, and the other fellow doesn't see it. There is no use in advocating limited production. There is only one thing that will limit production and that is the market itself, and while this is even tolerably good, or while it holds out a hope of being better, the man who has land that is not profitable for other crops, or who thinks he can do better in fruit, will go on planting, and he will always regard the advice given him by the man already in the business as being inspired by a selfish motive, and the desire for keeping a good thing all for himself. And, really, we see no reason why, because there may be an occasional poor season, we should put a period to fruit growing.

The population of the United States is rapidly increasing, meat and meat products are each year becoming scarcer and dearer, and fruit is becoming cheaper and more plentiful. It is fast ceasing to be an article of luxury and is becoming a necessary article of diet. Improved methods of preserving, canning and drying place it before us the whole year round, and enable us to send it to the furthermost corners of the earth. Rapid transportation and a widening market enable us to present it in its fresh state to a very large population. We are not confined to a local or even a national market, but have the world in which to dispose of our products. Of course, we do not have the only fruit producing sections, but there is room for us among the rest, and room at the top, and while the days of fancy prices and enormous profits are past, there will ever be a demand for all the fruit California can produce, and at living prices.

We need some reformation in the matter of transportation and marketing that producer and consumer may be brought nearer together, but this is coming and we should never advise a man to cut down his orchard because prices were not good for one or two seasons.

A NEW HORTICULTURAL COMMISSION.

Sonoma county, which has long refused or neglected to appoint a Horticultural Commission, has at last awakened to the need of it and the supervisors have appointed Allen R. Galloway, of Healdsburg; O. E. Bremner, of Bennett Valley, and James H. Moran, of Sebastopol as commissioners. The supervisors of Sonoma have stood out against this appointment for a long time, and left the one great industry of their county exposed to all the danger of outside infestation. As a matter of protection to the state at large the State Horticultural Quarantine officer has, at great trouble and expense, looked out for stuff coming into Sonoma county from outside the state, but until the present time all the efforts on the part of the fruit growers of Sonoma to have their industry protected has been unavailing. It seems that at last the pressure has been too great, and the supervisors have been compelled to do their duty and have appointed a good commission. As Sonoma no longer leaves the open door for the introduction of pests, the state at large is to be congratulated, and as she has an efficient board to attend to her horticultural interests the county is equally open to congratulations.

The readers of the Cultivator should take particular notice of Prof. Cook's articles running at the present time in the Cultivator. If Prof. Cook can make anything interesting, and he has a reputation on that line, it is the subject of entomology. At present he is running "A B C of Insects," and it is not only interesting reading for the farmer with crops which may be destroyed or saved by insects, but it is especially instructive for the young people of the farm who may wish to know more about the life about them on every hand. Call the attention of the boys and girls to these articles.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

MADE THEM "ABOUT FACE."

Last week some argument was presented to show that certain lines of economics must be made to prevail in the growing, preparing and marketing citrus fruits to make the industry profitable. As is usual with these articles an attempt was made to inbue them with the spirit of co-operation. In this all will agree that co-operation is absolutely necessary in the selling of fruit, for here is where the grower usually makes fatal mistake. In order to make impressive the conditions that prevail, one has only to keep posted upon the doings of the commission men and brokers at the eastern end of the line. There the struggle is continual between the growers-shippers of all the fruit products of the country and the professional fruit merchants. Some weeks ago a committee of the Norfolk association of shippers visited New York and other large cities to see if the burdensome commission charges could not be ameliorated and other abuses of the system rectified. This committee ran against the National League of Commission Merchants in New York with fatal results to the committee's "pretensions." Under the head "An object lesson as to the League's value," the Fruitman's Guide rubs it into the Norfolk men in great shape. "Here in New York," the Guide boastfully exclaims, "the shippers were right about faced with a prompt and decisive 'No.'" "Who can question the advantage of belonging to the League in the face of such an episode as that of the visit of the Norfolk shippers. 'All for one and one for all' would be the motto of the merchants in each branch of the League. With every good house included in the League's ranks, the rate of commission would become as fixed as the Pole Star, unsusceptible of drop or change, invincible against cut or shave." From the above it requires little imagination—only a retrospective view ten years back would suffice—to indicate the position of helplessness the citrus fruit growers would be in now were they not organized and in possession of their own selling agencies. And yet there are a few misdirected growers in California who by their acts are inviting a return to the vassalage of the commission system.

Another phase of the situation is discussed in The Fruit Trade Journal of New York, once the organ of the League, but not now for that profitable mantle has fallen upon the Fruitman's Guide. Sometimes the trade really buys its produce from the farmer. Under the head "Combination among merchants advised" the Journal presents an awful case where twenty-one brokers' buyers appeared at one Southern potato shipping point to buy potatoes. "What a picnic for the grower who is well organized and whom this wild competitive buying places in a position to dictate almost any price he sees fit," says the Journal. This practice of paying what produce is worth should be stopped even if the militia has to be called out. "Are the commission merchants of St. Louis, who have given the strenuous toil of mind and muscle of the best years of their lives to establishing great business enterprises, some of them of international reputation going to lie down in the dust and allow the wheels of the chariot of progress to crush them out of existence?" almost tearfully exclaims the Journal. "To attain the coveted goal a decade or two ago was mere child's play in comparison" (with running up against the growers' organizations of the present day). "Then with the nerve and the money a man might have shut his eyes and plunged and came out a winner ninety-nine times out of a hundred. Today if a merchant attempts to get a corner on apples, onions, cabbage or whatever you will, he finds when he closes the deal that he would have been money ahead if he had stayed out" is another frank expression from the Journal. But here is the gist of it all in a closing plea for organization among the commission.

men: "The organization of growers' associations is of almost daily occurrence from the Atlantic to the Pacific and from Canada to the Gulf. These associations are undoubtedly a good thing for the grower when wisely managed; but they become a menace to the jobber when, in the process of evolution, they begin to affect the distribution of their products by establishing their own agencies in the various markets. Such a condition is not problematical; it is already a reality."

Growers will no doubt cover themselves with sack cloth and ashes and join in the general lamentation when they learn that their co-operation has prevented 99 per cent. of the commission merchants of the East from getting rich by investing but a few dollars in rentals and stationery. No one of the middle west will dispute the fact of the commission men of St. Louis having "reputations" in the halcyon days from 1870 to—this date if you wish, or that they had the "nerve" to win at the expense of the grower. Now they and their brokers propose to organize for the purpose of getting a cinch upon the business and bringing back in a measure the good old days of yore which were first disturbed by the co-operators of Southern California in establishing their own selling system. But, oh, the agony of it all, for we are told as a parting shot that unless the fruit and produce merchants realize that they must meet combination with combination, even the strongest must eventually become discouraged and either withdraw from the unequal struggle or fall by the wayside. "Beg pardon, butI shall have to leave you," said the fly which had been sitting upon the horn of an ox. "Your servant," said the ox, "but I did not know you were there."

What is the "trade evolution" these fellows are so much afraid of? And this "Chariot of Progress?" They are merely the effort to remove all intermediaries from the fruit trade. To eliminate the elements which have forced irresponsible control of the fruit selling business for many decades. Trade evolution and chariot of progress are good terms, but if the commission men think their own consolidation would be accepted as an assistance in this progress they mistake the calibre of the modern American farmer. In the attempt to market the corn crop of the Mississippi bottom we have seen the wheels of progress filled from hub to felloe with crabgrass an black mud. This is the way the commission system would assist the chariot of progress by attaching itself again in Southern California. A sharp hatchet and a hand spike were required to release the wheels in the corn field. Co-operation and independent marketing are equally effective in removing the commission incubus. They have already released the wheels these ten years back and the progressive citrus grower will not allow the same old obstructionists to get a new hold in Southern California.

PEACH ROOT BORER.

Charles I. Hemphill, of San Jose, sends a communication regarding the peach root borer and a remedy which he has used for several years and now recommends as thoroughly efficacious.

It appears from this letter that his remedy is thoroughly effective and while some trouble and expense for the first application, the end justifies the means. Regarding this remedy Mr. Hemphill says:

"About six years ago I discovered a remedy that not only destroys the peach root borer, but keeps them out and also enables the tree to grow new bark and in three or four years to be as good as though a borer had never been in it."

The writer then adds that originally he began an investigation expecting to procure a patent on the process. Later, the fruit growers around San Jose offered to award $1000 for an effective remedy, he decided to give the remedy freely to the public.

Mr. Hemphill now invites any one interested to call at his place near San Jose and inspect results. He prefers callers to come between five and six o'clock on week days.

Regarding the borer and the method of handling it, Mr. Hemphill says:

"The borer passes into the cocoon and fly state and lays its eggs from the middle of March to the latter part of September, a period of about six months. The great difficulty in destroying the pest has been due to the long laying season.

For any one to hope to get a thorough mastery of the "borers" by digging he must dig every day in the year.

For the most effective work the trunk of the tree and the roots for a foot or more below the surface must be freed of all borers. Clear away dirt, with knife and wire, or, Neff's borer tool gives best results. kill all borers which may be found. Use the tool so as to cut out the outer bark over the run, leaving a groove just as long as the borer runs. Fortunately the borers work up and down. If they went around the tree it would soon be girdled.

Remove all dust and dirt from the surface, apply the wash given below, let stand three days and then evidence of other borers will be seen. Kill them and in three days call again. Repeat the killing and the whitewashing. When no longer evidence of the pest remains fill in with dirt, being careful not to crack off the wash. There may still be small worms left which indicate their presence by small specks of sawdust. Kill these.

In December open up the dirt and more half grown gorers may be found and killed. Whitewash again. In March repeat, if any are alive, which is hardly probable with the past thorough work. But whitewash again for protection the coming season.

This is hard work, but it is thorough.

The wash consists of three gallons of slacked lime, one-half pint of coal tar, and one-and a half pints of good loam soil or clay. Mix thoroughly, using water, until it is of the consistency of paint. If too thick to apply readily with whitewash brush, thin with water from time to time. Be sure there are no cracks in the wash. If there are the borers get entrance, all must be done over. Wash the tree above the ground at least a foot and have plenty at bottom of trench about tree.

In closing, Mr. Hemphill urges all to follow his plan and the orchards will soon be absolutely free of the pest.

In connection with the above it may be interesting to note that last week's San Jose Mercury speaks of a new remedy. It is a gas from a chemical called Naphine. Its discoverer, Julius H. Bien, a graduate of the Department of the Tulaine Medical University of New Orleans, now resides in San Jose, and is testing the remedy on peach root borers and other insects. If it proves a success, its application is far simpler and would prove much cheaper. The Mercury says:

"Besides being a remedy for troublesome insects of all kinds it is destructive to flies and is a good disinfectant for all kinds of diseases, according to the discoverer.

If the results of the experiments now being tried are satisfactory to Mr. Bien he will erect a big plant in this city for the manufacture of naphine before next year and will make San Jose his permanent place of business."

George H. Marsh of the Pomona Ladder Co., has moved his factory to new and larger quarters and now has a full block of land, with office on corner of Sixth and Cypress streets, Pomona. The "Tripod" is proving a winner in the fruit picking sections and has such strong points that its sale constantly increases. The use of the single support, instead of two, has proved a good feature in picking, especially in dense trees, when the single leg may be readily adjusted. Unlike other single leg, or three leg, rather, ladders, the head of this ladder is very rigid and gives a feeling of safety to the fruit picker. The bolt holding each step and double steel brace are factors of strength which add to its permanence. But the Tripod isn't Mr. Marsh's only pride, for his extension step ladder is a crack-a-jack and useful in so many ways that it is almost indispensable about the house, barn or shop. These ladders are used in some of the largest orchards in Southern California.

He (gazing at the stars): "I wonder which are the evil stars?" She: "The ones that wink."—New York Herald.

Coast News and Notes

By R. A. ..gue, 1045 Regent St., Alameda

The cherry crop is about over.

Hops are doing well in the state but will be a light crop.

The hay crop is below the average north of the Tehachapi.

The Napa Woolen Mills are being removed to Coos Bay, Oregon.

New grapes are now found in the San Francisco market at 50 cents per basket.

It is said that the Riverside orange crop will exceed the former estimate of 4000 cars.

An army of caterpillars are ravaging the country in the vicinity of Walla Walla, Washington.

The striking mill workers of Spokane have raised $250,000 and will start a co-operative mill.

The Alvarado sugar factory announces that it will contract for beets for 1904 at $5.00 per ton, delivered.

There is now on exhibition at the Oakland Board of Trade rooms a Beauty rose that is 6½ inches in diameter.

The prospects for a heavy raisin and peach crop in the Fresno section are good. Prunes and apricots short.

The Oxnard sugar factory is now in full operation. The beet crop is the largest ever raised in Ventura county.

Strawberries are now said to be a remedy for rheumatism and gout, because of the salicylic acid contained in them.

Lou Dillon, the Santa Rosa mare, broke all records for a mile at Cleveland, Ohio, June 30. She went it in 2:04¾.

About 300,000 acres of land have been added to the forest reserve of the Susanville district of Northern California.

California is the first state to secure a day at the St. Louis Exposition. Sept. 9, 1904, is to be California day at the great fair.

The State University began July 1st to prepare Farmers' Institute work. The last Legislature appropriated $12,000 for that purpose.

A movement is said to be on foot to bring about a combination of all the woolen mills on the Pacific coast. John Martin is the promoter.

Dr. Andrew Sayous, a scientist of the University of Paris, is making a tour of the state, carefully studying our agricultural industries.

Allen G. Fraser of San Francisco has leased Santa Cruz island, 28 miles from Santa Barbara, and will make a health and pleasure resort of it.

Seven carloads of prunes were recently shipped by M. L. McDonald of Santa Rosa to France. The fruit was packed in 12* and 25-pound boxes.

An English capitalist has written Secretary Stearns of the Oakland Board of Trade saying he desires to purchase a large California vineyard.

The Haywards fruit packing establishment of Hunt Brothers will have a short campaign owing to shortness of the cherry crop. They now employ 200 girls.

E. L. Hasler & Co. is the new fruit dealing firm that grew up out of the wreck of the Porter Brothers Company. They have succeeded to the Chicago business.

Both the apricots and peaches in the Santa Clara valley, just now beginning ti ripen, are dropping from the trees and the orchardists are seriously troubled in consequence.

At the last weekly sale of the Santa Rosa Poultry Association, sixty cars of eggs were sold at 18½ cents per dozen. These weekly sales are assuming considerable importance.

H. Olmstead of Santa Cruz, has brought out a new berry which he calls the "Black Loganberry." It is a cross of the Loganberry with the Black Kittatinny. The new fruit is vary large and very fine.

Professors Woodworth and Clarke again report progress in their efforts to destroy codling moth in the apple orchards near Watsonville. There is still some danger of a second brood which, if unchecked, may enter the fruit.

There are twenty-six large ships, fifteen barges, and two steamers idle in the San Francisco bay awaiting to be chartered to carry California grain arboad. They are mainly English vessels.

O. D. Freeman of the Santa Rosa Poultry Association shipped a few days ago ten White Minorcas and White Leghorn fowls to Santa Maria, Santa Barbara county, for breeding stock.

The San Francisco Harbor Commissioners are taking steps now to provide space for the free market provided for by the last Legislature. Why they waited till after the fruit season is half over they know best.

Consul Joseph Britain at Kiel, Germany, reports to the state department that California prunes and apricots are supplanting the products of Italy and France because California fruits are cheaper and its flesh brighter and more solid.

A dispatch from Germany says the Germans like California dried fruits. J. A. Filcher laid the foundation for that. When at the Hamburg Exposition he set up a cooking range and stewed California fruits and fed the German on them.

I. B. Morris of Forestville has set out sixteen acres to nursery stock. He has 16,000 cherry trees, 175,000 grape cuttings rooted for the coming year, and 30,000 apple trees. He says that apples, cherries and grapes will eventually take the lead among Sonoma county fruits.

Prof. A. P. Stover, government expert in irrigation, has begun investigations at Pomona and in Tulare county, to ascertain how alkali streaks in land may be overcome. The U. S. government has appropriated $10,000 and the state $20,000 to be expended in making the experiment.

There has been for two weeks a presistent fight made against the invading grasshoppers in Fresno county. Twenty or thirty ranches band together and like an army march against the pests fighting them with sacks and fire. The farmers seem to be winning the fight.

Many sections are already preparing fine specimens of fruit for the St. Louis Exposition. The fruit is put into a solution of formaldehyde, glycerine, filtered water and sulphurous acid, and then placed in the dark for six weeks in order that the specimens may retain their color.

The Fruit Distributing Association had on the 3d instant shipped from Sacramento thirty-nine carloads of fruit to the East. The fruit shipped was: Three-quarters of a car of cherries. 2½ cars of apricots, 11 carloads of peaches, 24¼ carloads of plums and prunes, ¼ carload pears and ¼ carload of apples.

Dr. Geo. S. Mickox, chief of the U. S. Inspector force of the bureau of animal industry, is preparing to enter upon a vigorous campaign against the sheep scale disease in Wyoming, Utah and other Western states. His remedy is to dip the sheep into a solution the ingredients of which have not been made public.

It now is charged that the great grain dealing firm of Eppinger Brothers transacted a great deal of crooked business. It is alleged that wheat was put in warehouses and money borrowed on it and then moved to another place and more money borrowed; and a story is told how clients were cheated in weights.

The Fisher-Merritt Fruit Company has just been organized at Santa Rosa. There are 500 shares of stock valued at $100 per share. Edson C. Merritt, in charge of the Santa Rosa branch, subscribes $16,000; W. L. Whitaker, $1000; W. M. Fisher, of the Napa plant, $16,000; A. Schmolz, of Napa, $1000; Senator Woodward, $16,000.

The stock raisers along the Cosumnes river are losing thousands of dollars from hog cholera. Medicine so far has done no good. Dr. McCollum says it is germ disease and advises burning the ground bare on which the swine run. The Doctor says there are twenty-one different germs that produce cholera.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

(Continued.)

In our survey of the great branch or Phylum of jointed animals, which includes insects, we have spoken of the water breathing crustacea class and the many legged Myriapods, and have also looked in upon one order, the little mites of the class Arachnida. It will not take long to complete our survey of this latter class, as the two latter orders of the class are not of special interest to the farmer. Indeed, in so far as they are of any importance, they are our friends. It will be hard to persuade many people that the spider is really a worthy member of the great animal society.

We now consider the second order of this spider class, which consists of a rather heterogeneous collection, but which, for convenience, I will group under the name Arthrogastra. These animals are well named, as all of them have jointed abdomens. Like the true spider, their body is made up of two parts, the head-thorax and the abdomen; but this latter part is always segmented, that is it is made up of rings or segments. We may know this group by the name scorpion order. It embraces not only the grandfather graybeard, or daddy-long-legs, but also the true scorpions, the whip scorpions of Florida, and the little book scorpion, often found in houses about book cases. It is much the form of the bedbug and not very different in size, but is easily detected by its great palpi, which ends in formidable pincers, which resemble greatly the great front legs of a crab or craw-fish. These do no harm, feed on insects, and so might be called our friends.

The true scorpions are very familiar in all Southern California. Some of them become quite large in this section. I have them full four inches long taken at Claremont. They also have the great palpi which ends in strong scissors-like pincers. As is well known, the abdomen is tipped with a poisonous sting, which is said to be quite virulent in its effects when used. These also feed on insects, rarely do any harm by use of their sting, and may well be considered as our friends. It is often reported that the sting of the scorpion is very serious. It is to be presumed that the danger from these animals is very much exaggerated.

The whip scorpion of Florida is so named because of long tail-like appendages attached to the tip of their abdomen. They are much like the true scorpion, except that the abdomen is as broad as the head-thorax. Although dreaded by many they are perfectly harmless and are wholly our friends.

Grandfather gray-beard is as broad as long, like our lady bird beetles, and is chiefly characterized by his enormously long legs, which of course like all the spider group are eight in number. I think these do neither good nor harm. A good place to study them is while camping in the mountains. We have pitched our tents in the canyons for the past two summers, and these daddy-long-legs would gather upon the outside of the tent by the thousand. I said they did no good. Perhaps I ought to add that they will when picked up, point to the direction where the absent cows are which we wish to find. Their legs, of course, point in all directions.

* * * *

TRUE SPIDERS.—The last order of the spider class includes the familiar spiders, which every one knows and nearly all dread. This order is known technically as Araneina. They differ from the scorpions in that their abdomen is a mere bag and not ringed at all. Indeed, their abdomen is not unlike the whole mite or tick. Their chief characteristic is the possession of spinerets at the tip of their body with which they spin their webs. These webs serve them many purposes, as a tight rope on which to climb or swing, a great net in which to rest or by aid of which to capture their prey, or may be used for weaving a den or nest where they are secure against harm, may line their nest in the ground, as is seen with the trap door spider, in which case they make a lid of the same silk, which closes their underground home in a most ingenious fashion. Again, some of them use this silk to fashion a diving bell. These are water spiders and use this diving bell to carry air down deeply into the water, for all spiders are always air breathers. As we should expect, the mouth organs and feet of the spiders are curiously modified that they may dextrously use this silk. The silken thread is composite as it passes out of many tubes as a liquid, but at once hardens into the beautiful silk which serves them in the multitudinous ways suggested above. The spiders live wholly upon insects and so are only friends to the farmer. Their webs may become unsightly, and so must be destroyed, yet when left in house or barn, they capture and destroy myriads of flies and so are not wholly to be condemned.

The spiders are often much dreaded. True, their bite is poison, but their jaws are usually so weak and the poison so light that they are wholly impotent to harm the higher animals and so are little to be feared by man. I have found, however, that the great tarantula of California, an enormously large spider, will secrete a large amount of poison and also possesses enormous jaws. I have found it the one exception to my rule, for I always show my students by careless handling that the common spiders need not be feared. There is quite common in California a little black spider with red markings upon it which is reputed to be quite a serious enemy. I have had several reports on its bite in various parts of Southern California, and in nearly all cases quite serious results attended its bite. This species is found in many parts of the world. In all places it has the same unsavory reputation. It is known to science as Laterodactus mactans. While its bite is attended with great pain, swelling and fever, it is never, I think, fatal.

* * *

SPIDER NESTS.

Mr. A. M. Seeley, Covina, one of our bright fruit inspectors sends me orange leaves containing each a circular web about the size of a nickel. Mr. Seeley asks if these have any relation to the spiders that destroy the young buds of the orange trees. Mr. Seeley will see by the article in today's Cultivator that true spiders do us no harm. They feed wholly upon insects and are therefore our friends. These round web patches on the leaves are simply the niduses or egg cases of our common spiders. Thus this is another use that the spiders have for their silk. They, sometimes, even spin a bag in which the eggs are placed and they then carry this bag around until the eggs are hatched after which the young may in some cases gather on the mother's back and are still carried by her. Spiders never do harm, as stated in this number of the Cultivator. We must remember that mites, so often injurious are not spiders though they do belong to the spider class. It is even more incorrect to call spiders insects. One of our ablest editors in his paper of last week referred to mites as insects. It would be less an error to speak of sheep and hogs as cattle, or dogs as felines. The same writer spoke of using kerosene emulsion against these mites. I think it were better to recommend the distillate spray.

* * *

DEFORMED BEES.

G. F. Ernst, Vacaville, mails me some deformed bees which he says are quite common in some of his hives. For some reason these bees have failed to develop perfectly. I have never seen anything like it before and so can give neither cause nor remedy. I doubt if the trouble continues long. give neither cause nor remedy. I

* * *

BEES AND FRUIT.

M. S. Phillips, Campbell, Cal., keeps bees. His nearest neighbor dries fruit and finds the bees quite a disturbance. He wishes to know if he can be compelled to remove the bees or can be proceeded against legally. There have been many cases of this kind in the country and in no case has the conviction of a beekeeper under like circumstances been sustained by the higher courts. Mr. Phillips should join the Beekeepers' Union and then in case of law, his rights make it clear to his neighbor that the bees are much more of an aid than an injury even to the fruit grown.

* * *

DECAY IN LOGANBERRY.

J. C. Wilday, Pacific Beach, forwards some "defective Loganberries. The vines are fine, the soil good, and the same plants have heretofore been ripening their fruit in fine condition." Mr. Wilday wonders if there is not some fault with the soil. This seems to be a case of genuine rot. All such trouble is bacterial and comes from a specific germ. As well say oats or grass spring up from the soil because the soil is faulty as to say that rot comes from soil deficiency. If this trouble continues, Bordeaux mixture would be the remedy to try. As I have not heard of such affection before, I can but hope that the difficulty is transient. Have others of our readers had any such difficulty?

* * *

PSOCUS FLIES ONCE MORE.

H. H. Hale, Fullerton, forwards orange leaves on which are several of the almost white Psocus flies. He thinks they defoliate the trees as the leaves are falling badly. This is almost certainly a mistake. The Psocus flies are almost white, quick of movement, with prominent eyes and long antennae. They do no harm. In case leaves fall it may be caused by the red mite (red spider), or by some condition of water or soil, possibly of climate or temperature, which has enfeebled the tree.

* * *

CARBON BISULPHIDE FOR POTATO MOTH.

Mr. William Wagner, Anaheim, is troubled with the potato moth, and asks directions for the use of carbon bisulphide. As is well known, this moth works on the potato not only in the field but after the potatoes are stored. If the potatoes are placed in a close bin or box and carbon bisulphide added, the insects will certainly be killed—all that are subjected to the vapors. Mr. Wagner should send to the Agricultural Department of the University for the excellent bulletin just issued on this subject. How many of our readers really know of and appreciate the good work of our University in their valuable researches and publications regarding our insect foes? Every live farmer should write to the Department, Dr. E. W. Hilgard, Experiment Station, Berkeley, and ask that his name be put on the mailing list.

* * *

FORCING BEES INTO THE SUPERS.

C. W. Stone, Morgan Hill, California, asks for directions which will impel reluctant bees into the sections. Extracted honey sells for 6 cents per pound, while the same honey in the comb will bring often more than twice as much in the market. The novice can often succeed well in working for extracted honey, while the expert may often have indifferent success in the production of a similar grade of comb honey. The reason is largely indicated in Mr. Stone's question. It is often very difficult to induce bees to enter the sections, it is natural for bees to put the honey close above the brood; when, therefore, we put the sections in a crate, which is placed entirely above the brood nest, we force unnatural conditions, and hence the difficulty of securing active storing in this surplus honey chamber.

There are two or three things that help very much in this matter. Sections with comb and possibly partly filled with honey, left over from the previous year, will often attract the bees and accomplish our purpose. If we fill one section with unsealed brood and place this in the section crate, we are almost sure to attract the bees to storing in this surplus case. Once at work in this section and they are likely to continue in which case we can remove the brood. If we perform these last two acts, and place the surplus crate with the remaining sections full of foundation upon a hive in which a new swarm has been hived with empty brood frames or frame with foundations only, we are likely indeed to secure a full force of bees which will actively store in the surplus case. As they get to crowding the sections, we can raise this crate, add another, below and continue until we sometimes have four or five crates of sections on a single hive. By such manipulations the expert is often able to secure nearly as much comb honey as he would have of extracted. Of course in all such cases the colony must be strong at the dawn of the honey season. I always found a great deal more pleasure in working for comb honey than extracting honey, possibly because it requires much more skill to obtain the same degree of success.

Little Los Angeles Girl, reading: "Papa, what is sheep husbandry? Is it getting husbands for little girl sheep?

Any one that is interested in the Smyrna Fig business should know what variety of capri to plant. Now is the time to determine. Send 25c to cover packing and postage, to W. Herbert Samson, Corning, Cal., proprietor of Maywood Colony Nursery, and he will send you by mail four of the Capri Figs of different varieties, containing the Blastophaga. The figs contain from three to eight hundred insects.

Persons wanting larger quantities can obtain the figs for $5 per 100. Mr. Samson has made a study of this business for the past three years, and has proven that he has the best variety of Capri fig in the state.

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California Horticulturally...

John Isaac, Sacramento

THE PRUNE IN CALIFORNIA.

Continued from first page)

strength of this dip is one pound of concentrated lye to ten gallons of water, but this varies according to the ripeness of the fruit and the toughness of the skin. The fruit is put into wire baskets or perforated buckets each holding about half a bushel, and immersed in the boiling lye. The length of time they are immersed depends somewhat upon the fruit but sufficiently long to soften the skin, which is indicated by the surface of the fruit appearing checked. From the lye bath to the rinsing bath is the next process. This may be a stream of fresh running water or a vat of fresh water; if the latter, it must be frequently changed, in order that every vestige of lye be removed. After this the fruit is spread on the drying trays and exposed to the sun until it is sufficiently dried to keep, but not dry enough to rattle. This takes from a week to a month, dependent upon the season and the weather. From the drying ground the fruit is taken to the sweat bin, where it is piled in heaps for two or three weeks, being turned over several times and thoroughly intermixed. This process gives the prune its black, glossy appearance and also causes it to assume some of its original plumpness. After the sweating comes the finishing, which is simply the dipping of the now dried fruit in another hot bath. This time the bath is of clear boiling water to kill off whatever insect germs which may have found lodgment and to soften the skin. The fruit should be left in this until partly cooked.

THE FUTURE.

The question of a future market for our constantly increasing prune crop is at present a serious one, but it is encouraging to note that while, in the past ten years there has been a steady falling off in the importation of prunes, which is now confined almost wholly to some fancy brands, we have been steadily increasing our exports, and this largely to France and Germany, both prune producing countries. The following table may be interesting as indicating this:

QUANTITY AND VALUE OF EXPORTS OF PRUNES.

Fiscal year.	Pounds.	Value.
1897-98	15,940,791	$1,021,888
1898-99	5,615,565	380,847
1899-00	25,922,371	1,646,332
1900-01	10,021,564	589,113
1901-02	23,358,849	1,404,422

A serious shortage in the prune crop of France for the past few years accounts for the foreign movement. Whether the foreign demand will increase or decrease in the near future, cannot, of course, be told, but it is probable that, even with the occasional dull seasons, California prunes will always find a market at fair prices.

A NEW USE FOR THE FIG.

The fig is one of California's favorite fruits and is eaten fresh, dried, pickled and preserved, but it has not yet been put upon the market canned. This season, however, for the first time, the experiment is being made in this direction, at the Gridley, Butte county, cannery, which is operated by Hunt Bros. The cannery recently closed a contract with H. W. McNamee for twenty tons of Smyrna figs, which will be canned. This process contemplates the canning of the fruit with all its natural juices intact, without drying or other process than hermetical sealing. Figs are not abundant in Butte county, and it is expected that this new use for the fruit will stimulate the planting of fig trees. Only the Smyrna variety wil be used as the Adriatic variety is not considered suitable for the purpose. The management of the cannery intend also to put up plums and pears this season.

THE BUSY SEASON.

The hot weather of the past few weeks has ripened fruit with great rapidity and it is now coming in with a rush. Work in the packing houses, canneries and driers is being rushed as fast as the available help can handle the fruit. It is now that the great shortage of help is being most severely felt and there is hardly a concern in the state engaged in handling fruit that is not in need of more help.

Deciduous Fruits

By J. W. Mills, Ontario, Cal.

POTATO GROWING.

A reader of the Cultivator has suggested that we might do some good at this time if we publish something on planting and irrigating potatoes, with special reference to the fall crop. One of the points to be considered is the preparation of land from which a crop has just been removed, leaving the ground almost dust dry.

We happen to have had a little experience in that very sort of potato growing and we can at least point out where some mistakes might be avoided. As a general proposition, it does not pay to raise a crop of hay on land which is destined to be used in growing potatoes, provided the water costs over a cent an inch per hour. It will pay to keep the land well cultivated until the summer planting time comes, which is about the last of July.

On hay ground that is now dry, we advise making checks and flooding the surface about a week before planting. This should be well cultivated so as to preserve as much moisture as possible and about three days before planting the ground should be given another thorough irrigation, then plowed deeply and harrowed down. Our experience has been with irrigating in furrows but we found that where there was enough grade to allow the water to pass along rapidly, the soil would be dry a few inches below the surface. We think that flooding should be done as described so as to get a uniform amount of moisture over the entire surface. The roots of grain penerate for three or four feet and the moisture is thoroughly pumped out of the soil for a greater depth than that. Potato roots penetrate to about the same depth, so it is necessary to get the water down that far if the best results from the potato crop are to be had.

When a potato planter is not available a plow or a cultivator with a furrowing out attachments are used. The potatoes should be planted about six inches deep and when a plow is used it is set to run about that depth. Enough furrows should be skipped to bring the planted furrows about two and a half or three feet apart. An important item is the irrigation that follows planting. We were told last yeai that if we knew as much about raising potatoes as a Chinaman, we would not have made the mistake that we did on that point. Our land was so thoroughly soaked and the potatoes so nicely started that we did not think an irrigation before the potatoes came up was necessary. As a consequence, the stand was so poor that it proved unprofitable. We learned from successful potato growers that an irrigation about a week or ten days after the potatoes are planted is almost always necessary to secure a good stand. When a plow is used for planting the land is left perfectly level when finished. About a week after planting, furrows about three inches deep can be made with cultivator attachments, irrespective of potato rows, and as soon after irrigation as possible, the land should be harrowed down smooth. When the planting is done with a furrowing-out machine that makes no more furrows, it might be practical to use the same machine for splitting the ridges and thus cover the potatoes and furrow out for the first after irrigation at the same timee. The after irrigations are important, and there are two views as to when irrigation should stop. At the Wyoming station it was found that the potatoes commenced to set when the blooms commenced to appear, and if they were irrigated several times before that period, there would be just that many sets or roots started and just as many sets of potatoes. As a consequence, there would be a large percentage of culls. If the potatoes were allowed to set and were then irrigated they would use up the moisture in development and a fewer number, but larger potatoes would be the

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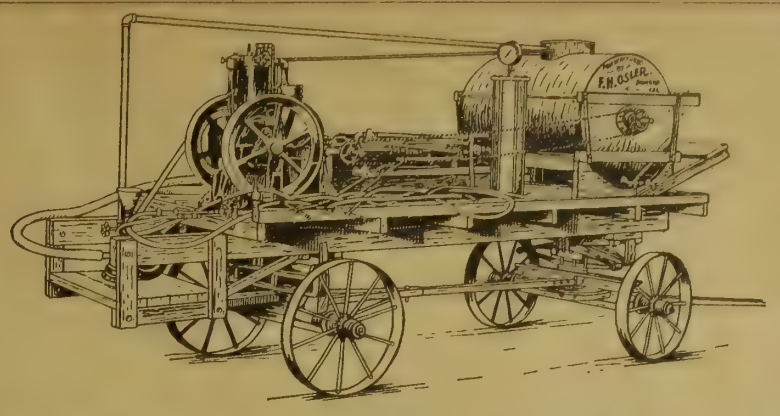

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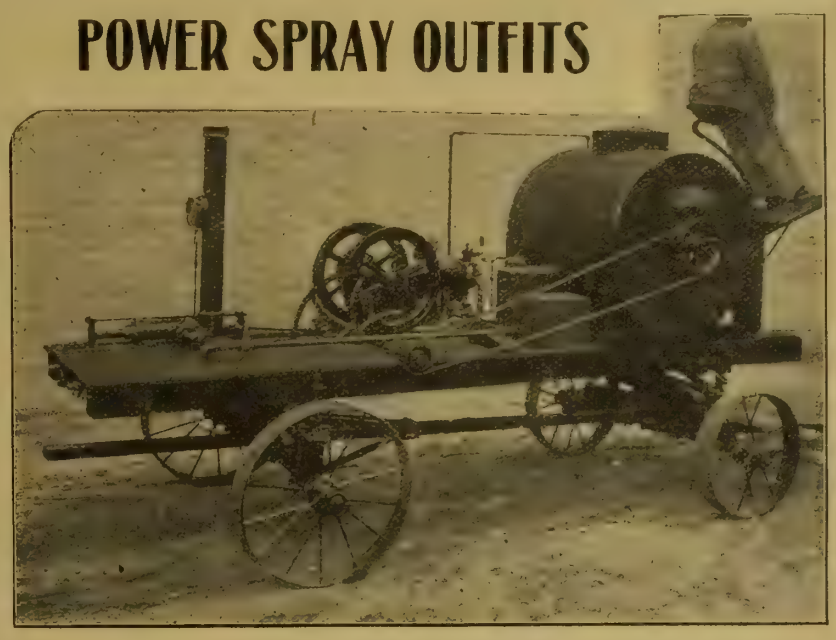

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result. California practice seems to favor giving them an abundant supply of moisture up to the time that the tubers set and then withholding the water. This gives them a strong top and extensive root system that will properly mature fine large tubers.

The size of the seed is important as the plants continue to draw from it until quite large. Large seed pieces produce a larger precentage of large potatoes than do smaller ones, but there is a limit to this, it being more profitable to have the weight of seed distributed over a larger area. It was found that when planted eight inches apart in the row, the best yield was obtained.

In experiments carried on in the different parts of Wyoming, the following averages were obtained. As regards whole seed and cut seed, it was found that small potatoes planted whole produced a greater percentage of small potatoes than large tubers cut before planting. In every case, the small potatoes planted whole produced more than enough marketable tubers to offset the difference in large potatoes from large cut seed. Where the whole small seed was used for several generations, there was a tendency to lower the average size of the potatoes.

With Early Rose, small potatoes planted whole produced 83.4 per cent merchantable potatoes, while large seed cut, produced 93.4 per cent merchantable. On a given area, the small seed planted whole produced 14,230 pounds, 11,867 pounds of which were marketable.

On the same soil, same area and other conditions identical, large tubers cut, produced 3,180 pounds, 2,903 pounds of which were marketable. This was with Early Rose and with ten other varieties, there was but one which produced more per acre from large tubers cut, and there was but a difference of 300 pounds. With the other nine varieties, there was an average gain of 1500 pounds per acre in favor of small seed planted whole. In another test of 19 varieties, there was an average gain of 2100 pounds per acre in favor of small seed planted whole. Practically all of the seed grew. There were about 200 pounds more per acre planted of the small whole seed than of the large cut tubers. The gain in marketable potatoes was 3 per cent in favor of large tubers cut, but the gain in yield was 50 per cent in favor of the small whole seed. With Burbank, the gain in production in favor of small whole seed was 46 per cent over large cut seed, while the gain in marketable potatoes was 5 per cent in favor of the latter. With Early Rose the gain was 76 per cent in favor of small whole seed, the gain in merchantable potatoes was 5 per cent in favor of large cut seed. The gain from whole cut seed with Triumph was nearly double.

As to the size of the pieces when cut, it was found that when the tubers were cut to one eye and the seed end (that opposite the stem end) left on, the yield was about double that when cut to one eye wih the seed end cut off. The best results were gathered when the tubers were quartered endwise and the seed end left on. When tubers were cut to weigh about one and a third ounces, the results were better than when cut all sorts of sizes with the idea of getting a certain number of eyes to each piece. Seed cut to two eyes and planted 16 inches apart produced 11,637 pounds per acre and when planted 8 inches apart, 13,524 pounds. Cut to one eye and planted 4 inches apart produced 5,046 pounds, and when cut to two eyes and planted 4 inches apart, they produced 13,192 pounds per acre. When planted eight inches apart in the row and the rows two and a half feet apart, 700 pounds of seed per acre being used, the yield per acre was greater and the percentage of marketable potatoes was larger than when planted 18 inches apart in the rows with 500 pounds of seed per acre.

1,000 pounds of potatoes require from 3 to 5 pounds of potash, about 2 pounds of nitrogen and three quarters of a pound of phosphoric acid. It will be seen that potatoes draw heavier on potash than any of the three elements mentioned. The New York station tried experiments in which the full amount of potash required was applied to one lot and two-thirds to another. The latter (two-thirds plot) produced as much as the plot which was given the full amount. A plot which was given only nitrogen and phosphoric acid produced as many pounds of potatoes per acre as the plot which was given two-thirds the required amount of potash. When fertilizers containing nitrate of soda were used the potatoes were larger than when the nitrate was left out. Nitrogen has the reputation of making potatoees poor keepers.

* * *

SUMMER PRUNING RASPBERRY BUSHES.

The Wisconsin experiment station has been making a series of experiments in pinching back the shoots as they reach different heights. The experiments covered four years and Gregg and Cuthbert were used in the trial, 36 plants of each. It was found that pinching the Gregg when 24 inches high increased the yield, but decreased the yield of the Cuthberts. Pinching back when two feet high gave better results than when cut back when one foot high. A record of the number of shoots was kept and showed that pinching back increased the number on Gregg and decreased the number on Cuthbert. Pinching back increased the size of the berries on Gregg and decreased the size of Cuthbert. When the bushes were pinched once they filled up the space between the rows as close as those which were not pinched. When pinched twice the bushes were more dense than those which were not.

The following table shows the interesting average result of the four seasons' experiments:

YIELD OF PINCHED AND NON-PINCHED SHOOTS

TREATMENT	GREGG	CUTHBERT
Shoots not pinched	954 oz.	970 oz.
Shoots pinched at 12 in.	795 "	830 "
Shoots pinched at 12 in., laterals at 11 in.	1118 "	857 "
Shoots not pinched	814 "	996 "
Shoots pinched at 18 in	1150 "	864 "
Shoots pinched at 18 in., laterals at 12 in.	1046 "	908 "
Shoots not pinched	952 "	773 "
Shoots pinched at 24 in.	1261 "	992 "
Shoots pinched at 24 in., laterals at 12 in.	1182 "	773 "

GENERAL SUMMARY.—Extremely hot weather prevailed throughout the state on the 2nd and 3rd, accompanied by high northerly winds in the central and northern sections, with cooler weather at the close of the week. Fires destroyed several hundred acres of grain in the Sacramento and San Joaquin valleys, and forest fires caused considerable damage in the coast region.

Harvesting, threshing and hay baling are progressing rapidly in nearly all sections. The yield of grain and hay in Southern California is reported the heaviest for many years, and both crops are of excellent quality. Early wheat and barley are yielding fair crops in the central and northern sections, and nearly average in some of the districts, but fires and high winds have materially affected the crop. Late wheat is reported in somewhat better condition than expected in some of the northern coast counties, but the yield will be very light. Sugar beet harvest is progressing. Hops have made slight improvement in the past week and will probably yield a fair crop in some sections. Beans, corn, potatoes and vegetables are doing well.

The high winds caused much damage to ripening deciduous fruits in the central and northern districts, some reports stating that the loss will be fully one-half the crop. Peaches and apricots are dropping badly in portions of the Santa Clara valley. Fruit picking, drying and canning are progressing. Grapes and citrus fruits were not damaged by the wind and continue in excellent condition. The outlook is good for an unusually heavy yield of raisins.

LOGICAL.

A little Los Angeles girl learning to spell was told that oo in b-o-o-k was spelled b double o k, r double o t, root, etc. Afterwards in learning a few lines with "Up, up with the Lark," and of course applying the same rule, she said "Double up with the lark."

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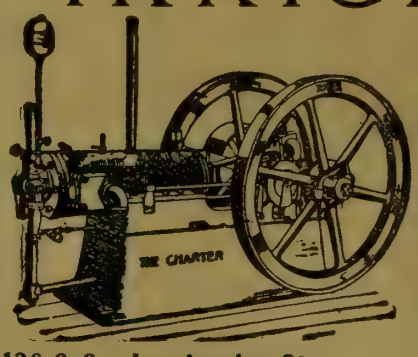

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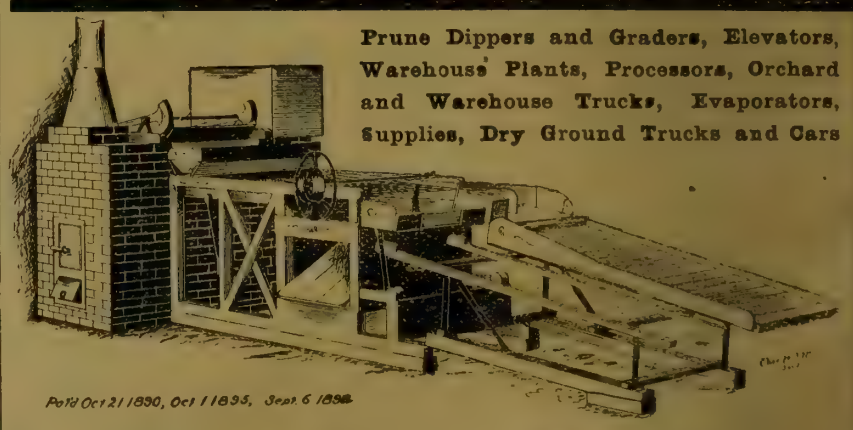

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1903 CATALOG

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207 Currier Bldg. Los Angeles, Cal.

BY ERNEST BRAUNTON, GLENDALE CAL.

JULY VEGETABLE CALENDAR.

Those who have consumed the spring crop of vegetables may plant many of the same sorts as late as July and obtain splendid returns for their labor. Some few vegetables will grow even better than in cooler weather. In California it is not so much a question of season, but of care. The following may be planted during this month: Beans, beets, cabbage (late), cauliflower, lettuce, peas, radishes, potatoes, spinach and turnips. Radish and spinach may be planted in this climate every month in the year. To have them crisp and to prevent the radishes from having a strong taste the water supply must be unstinted.

* * *

A FINE NATIVE SHRUB.

Almost everyone is familiar with the red "Christmas berries" which are gathered so abundantly about holiday time. and some few know the virtues of the shrub for garden use, yet seldom do we see it in cultivation. As a rule it is found but sparsely foliaged and furnished with small flower heads, but the writer saw one a few days ago growing in the deep, rich soil of a hillside, that surpassed in beauty any "snowball" plant to be found. Doubtless the copious rains of the past winter have done much for our native trees and plants for they are unusually prolific this spring and summer. The shrub noted was about eight feet high, of a like diameter and a solid mass of white blossoms. These shrubs are easy to transplant at any age and will thrive under the most ordinary care.

* * *

ASTERS.

One of our principal crops for autumn flowers is the aster, and from now on they should be carefully watched. The plants are often attacked by red spider, which can be kept in check by liberal sprinkling. Too often the plants are injured by root aphis and these may be overcome by sprinkling tobacco dust around the roots of the plants and afterwards sprinkled with water to carry the tobacco water down. All these pests must be overcome before the flowering period as watering liberally over the plants often spoils the white ones by staining them. Asters like a rich soil and should be fertilized liberally. The asters of our garden are not true asters, botanically, but belong to the genus Callistephus; next week we will endeavor to illustrate and describe some of our native, true asters.

* * *

CHRYSANTHEMUMS.

It is not yet too late to propagate chrysanthemums either by cuttings or division of old clumps, and if you have some that are now one to two feet high (as the writer has) you may safely cut them down to the ground and allow them to start anew or cut them an inch or two above the soil and allow them to branch out from the base of the present stems. Chrysanthemums require lots of water but the drainage must be good. They are also gross feeders and should be fertilized heavily until the buds begin to show color, when all fertilizing must cease. Many commercial fertilizers are used by the florists and gardeners but liquid manure is a good old stand-by. The danger of overfeeding with liquids will be materially lessened if applied when the soil is wet rather than dry, Chrysanthemums will repay liberally for disbudding.

* * *

A PERNICIOUS WEED.

Last year about the present month, many complaints were heard both at this office and at the rooms of the Horticultural Commission, about a weed known locally as "Wild Prickly Lettuce." This plant, known to botanists as Lactuca Scariola, was very scarce but a few years ago, and like most undesirable vegetable growths was spread with alarming rapidity until now the farmers in some districts are unable to cope with it. It was shown the writer a few days ago by a farmer near Glendale, who said it was a new weed and impossible to eradicate unless dug out by the roots. In this he made no mistake, and the farmer is very unwise who allows any of them to mature upon his land by reason of their being "too much trouble to dig out."

The Cultivator has heretofore accorded to Petaluma the credit of being the greatest producer of eggs of any town in America. The reports for the past four months are now in. In that time there was an output of eighteen million eggs. Placing the average price at 25 cents per dozen the Petaluma owners of the hen received for the four months $383,011, or $95,767 per month, or $3,192 per day. They also sold 627 dozen of fowls, for which they received $16,815.

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Intelligent Fertilizing

Its Necessity—What Thomas C. Wallace of Riverside is Doing for the Growers of California.

A day spent with Thos. C. Wallace at Riverside, Cal., Director of the Fertilizer Control, enables the writer to lay before Cultivator readers the crucial points in the selection and use of fertilizers, and an explanation of the business Mr. Wallace is so successfully carrying on. He seems to have a complete mastery of his chosen calling, and expresses himself in as clear and simple a way as the discussion of such technical and difficult subjects allow, and makes no attempt to mystify.

* * *

INTELLIGENT FERTILIZING.

A time comes in cropping when the fertility of the soil becomes impaired below the requirements of paying crops, though indeed it is true that there is practically no such thing as complete exhaustion of any element in the soil, except, possibly, nitrogen. The actual nitrogen content of a soil may be so small through cropping that the land will not support crops, but this is not often the case. The mineral elements of the soil are never exhausted, but it is only a question of time when the mineral compounds which feed the plants become so exhausted that the soils are sterile. In broad farming, where a variety of crops can be grown alternately, and the system of rotation intelligently and systematically exploited along with the return of stable refuse, the inevitable sterility of some soil elements can be staved off for generations, but not indefinitely. Strenuous cultivation will accomplish much in hastening the weathering processes in the soil, but this in the long run was found to be mere vanity by the followers of the enthusiastic Jethro Tull. The day of reckoning has only been put off by clovers and other legumes which enthusiastic agriculturists have lauded as the very sheet anchor of the question.

Theorists discourse fluently on the "balanced fertilizer," but practice proves its uncertainty. Practical growers occasionally are led into advocating this or that "fertilizer" which for a while seems to have "done the trick." All these things fail because they are not founded upon sufficient data, and their exponents are as derelicts tossing upon the sea of guesswork. There is no royal road, and no golden remedy is to be found short of recourse to the most thorough and searching examination and study of each case in complete detail.

As we advance, the fertilizer question becomes more and more important, for it presents one of the most promising means of controlling the quantity and quality of produce and permiting continuous fruit growing as a business. The rapid growth of the fertilizer trade in all sections has emphasized this. Farms which a few years since were looked upon by their owners as practically of inexhaustible fertility are now being fertilized, and the neglect of this precaution has in the past been one of the causes for the desertion of lands once "flowing with milk and honey." Starvation must be the lot of some future generation if fertility is not maintained, and we stand to be cursed by future generations of our kin if we neglect such an important matter as the preservation of soil fertility.

* * *

NECESSITY.

Growing fruit trees is a distinct avocation and entails special methods of cultivation and fertilization. When the availability of a soil becomes exhausted, some suitable substance containing the required elements must be put into the soil, and also means should be taken to revive the unavailable soil compounds. Trees have long lives and throughout are affected by early training and feeding. If we develop a great rootspread when the tree is young, every fiber of it must find fertility or die, and a mass of dead roots in the soil is as harmful and unproductive as the tree top loaded with dead wood. If the roots develop deep in a soil in the early life of a tree, it will undoubtedly produce longer without artificial feeding than if the roots had spread out only in the surface soil, providing, of course, that the soil is loose to a considerable depth.

The moment that the assimilable condition of any plant food element becomes so exhausted that a plant cannot obtain its necessary amount of that food, the need for the application of fertilizers arises. It is the duty of the agriculturist to anticipate it and to take means to supply the want. Intelligent analysis of the soil will to some extent foretell the coming evil, and the behavior of the plant will show it only too plainly to the observant physiologist.

It is true economy to guard this point, for the weakened condition of the tree which has been for a year, or years, deprived of its full quota of any ingredient is much more difficult and costly to restore to health than if it had been taken as a "stitch in time." Besides light crops, poor fruit, and decay deplete the grower's purse.

Fertilizers are therefore a necessity to the business of producing all crops, but most especially to orchard crops.

* * *

PERPLEXITY OF THE GROWER.

It is well known that the growers are seriously perplexed over this problem and one does not have to look far for the reason.

If the grower applies to the chemist, he is told that his soil is rich in all the necessary elements of plant food; if to the soil physicist, he receives the answer that he must cultivate more strenuously and mulch his soil; the fertilizer dealer recommends his standard or special mixture as the druggist advises a poor woman to take one of his famous patent medicines for her ailment; his neighbors flock to his aid with their home remedies, or to recommend certain fertilizers which they think have "worked the oracle" for them. In a few years he is "stumped;" he has tried them all with varying success and financial loss, and concludes that it is a "grand guessing bee" and he throws up his hands in perplexity if not despair. An idea strikes him, he must go to the Institute to find out the remedy. Go he does, and is told to spend the rest of his life studying all the natural sciences. The writer can sympathize with our friend—he has been through it all and knows how it is himself. To meet this perplexity the grower wants expert help as the poor woman wanted a doctor; this help can be obtained through a practical and scientific worker, and it was to meet this want that Mr. Wallace, after many years of observation, study, practical work, and travel, established the Fertilizer Control.

* * *

As already stated, soils are never exhausted of their elements, but the part that is easily available and soluble is often spent below an amount to feed paying crops, or even to permit a continuous healthy growth, and then the potential plant food of the soil can be said to be sterile. The plants do not cease to grow entirely because the slow disintegrating forces of the air and soil are constantly changing the soil substances, making some of it available. It has frequently been found by experiment that this sterility may only apply to the plant then being farmed, and that putting another class of plants on the soil, it often succeeds admirably. This is largely owing to accumulation of excluded elements and to the excretory acids of one class of plants being stronger than that of others, and consequently being able to extract fertility from the less, or differently, soluble substances in which the soil abounds. When we study the immense potential power of the soil, we are impressed with the advisability of endeavoring to aid nature in reducing some of it to a condition to supply fertility to our plants. This is one of the main offices of fertilizers and should always be taken into consideration in selecting material.

Instead of proceeding on the hand-to-mouth plan of trying to directly supply the whole needs of the plant from commercial fertilizers, and thus using $1000 an acre land as sort of feeding box, we should take means to work up the potentiality of the soil into available plant food. Then by a much smaller application of fertilizer we can accomplish the most gratifying results. It is not uncommon to hear the complaint that a certain commercial fertilizer had hardened the soil or made it cloddy and difficult to work. In this case a step toward sterilizing the soil has been taken, and it is quite explainable if the exact character of the soil and the complete make-up of the fertilizer are understood. Fertilizing the soil without carefully examining into this detail cannot be called intelligent.

* * *

SIMPLE ANALYSIS NOT SUFFICIENT.

A mere quantitive analysis of the soil cannot be taken as a guide to the use of fertilizers. It has its place in the soil study and cannot be dispensed with. It merely shows the amount of each ingredient or element in the soil, and if the quantity of every element in the soil is determined, some judgment can be made as to the probable condition from a knowledge of known combinations of these elements one with another. But such judgment would be largely guessing, and cannot be depended upon. Qualitative analysis would go further if accompanied by a knowledge of the conditions necessary to meet the requirements of plants. Here is where chemistry and physiology meet and join hands. In fact the most complete and careful quantitative and qualitative analyses must be accompanied by studies of all the other details of the soil, plant actions and research into the results of designed or accidental experimentation. To fertilize intelligently all known practical facts or theories must be deliberately and patiently weighed. The service of analysis is as the basis of intelligent fertilizing, and forms a starting point for the determination of soil problems which must have their full weight in selecting the materials and ingredients to fed the plant.

* * *

A COMPLEX STUDY.

It is thus seen that soil fertilizing is a complete study, including at least chemistry, plant physiology, soil physics, bacteriology, agriculture and horticulture. Important as is a thorough knowledge of the manufacture and use of all kinds of fertilizer and fertilizer substances, it is not sufficient to base an intelligent system of fertilizing upon. Here in California, where we have soils magnificently rich in the mineral elements of first importance to plants, fertilization should be at its best, on soils under such exceptional control as our irrigation and tree cultivation allow, the fertilization "guessing contest" should not find a place. Dealing with expensive fruit crops, in an expensive way, on expensive land, we should not be content with hit or miss methods, but reduce every item to the most positive system obtainable. At the very foundation of production, sooner or later we must recognize the question of keeping up fertility both of the soil and in the plant, and the time is close at hand when intelligence in this line will gain its reward in increased crops of superior quality.

* * *

THE FERTILIZER CONTROL.

When Mr. Wallace was perfecting plans for the establishment of a bureau under the charge and direction of competent persons, to furnish information and give assistance to growers as to the best methods of soil fertilizing, and for bringing land to the highest state of productiveness, he determined to call the business "Fertilizer Control." The success he has already met with has demonstrated its importance and need.

This is the day of specialists and in every department of life we find that through specialization of work the highest degree of skill and efficiency is maintained. The day is past when one can hope to succeed by attempting to do a little of everything, and no where is this more apparent than in the attempt which some growers have made to be their own chemists and soil experts and to judge of the chemical needs of their orchards. The failure of many growers in this respect has made it absolutely necessary that many questions must necessarily be left to a man who is an expert in fertilizers and soil physics, a practical agriculturist and horticulturist. Mr.

Wallace is all these, as those who have employed him, met him at the Institutes and Clubs and read his many suggestive articles upon these subjects in the Cultivator and other journals can testify.

Many questions have been settled in regard to plant life and soil physics, and many more will have to be. New questions are constantly coming up which will be solved by the application of principles. new conditions will have to be investigated and experimented with to discover new principles and their application.

Mr. Wallace is a wideawake student and is fully alive to the fact that a great many questions in relation to plant life and soil physics must be settled in this part of the country in order to maintain fruit growing as a profitable investment. He is at present preparing and carrying out investigations and researches which he hopes will ultimately result in a great benefit to the grower, and when these investigations are completed he hopes to establish facts which will be of incalculable value to the citrus grower. As a practical agriculturist Mr. Wallace has a keen knowledge of methods of culture of soils which materially affect the action of fertilizers. Unlike most workers along scientific lines, we do not find Mr. Wallace relentlessly opposing the use of complete fertilizers, but on the contrary he advises their use under proper conditions. His policy is neither to oppose nor advocate any fertilizer unless it is the kind which would give to his client the best results under the conditions as he finds them. The matter of purchase is left with the grower to buy where he pleases. Mr. Wallace's sole aim is to give his client the benefit of his large experience and general knowledge at a minimum of cost. He becomes, in a true sense of the word, the professional adviser of those who employ him, as the physician becomes that of the patient.

* * *

METHOD OF PROCEDURE.

The practical manner in which Mr. Wallace goes about his work has won for him praise on every side. He visits the ranch, studies the condition of the trees or plants and obtains as complete a history of the soil as the owner can give, and all other information which might have a bearing upon the soil or plant life. In this way he obtains all knowledge that is possible by observation. His next step is to take samples of the soil, and this is done by boring to various depths and taking samples and subjecting the same to a chemical and physical analysis. In this way he gains a knowledge of both soil and plant which enables him to give proper directions as to the kind of fertilizers which can be most profitably used. He follows this up by visiting the land several times each year.

Mr. Wallace is a strong advocate of regular and systematic fertilizing, and is opposed to all spasmodic attempts such as have been unfortunately the rule with many growers. No good or permanent result can be obtained the grower starts right, obtains the materials required by both soils and plants, and keeps up the work year after year.

Contracts are made with the grower for one year or more at the nominal charge of one dollar per acre, per year, and actual cost of traveling, but no contract is made for less than twenty dollars. Payments are made half yearly. By the correct use of fertilizers Mr. Wallace is able to save his clients far more than the cost of his services. Quality instead of quantity is his motto.

* * *

ALREADY A SUCCESS.

The best evidence that the Fertilizer Control under the direction of Mr. Wallace has come to be a permanent institution among us, is the fact of the large number of intelligent and progressive growers who avail themselves of Mr. Wallace's services. Clients, among whom are the most successful growers in California, will be found scattered from San Francisco to San Diego, and new groves are being constantly added nearly every day. Wideawake and progressive growers cannot do better for themselves than by at once availing themselves of Mr. Wallace's services, as money invested in this direction by them is bound to return most profitable results.

C. H. SESSIONS, ASSOCIATE EDITOR

DAIRY NOTES.

Selma creamery is making 1400 pounds of butter daily.

The Golden Gate State Creamery Co., of San Francisco, announce the construction of a large creamery.

The annual meeting of the stockholders of the Hollister creamery will be held July 11th.

Colusa farmers are about to establish a creamery.

Last week the Minnewawa Stock Farm of Fresno shipped two registered Percheron brood mares to the University at Reno. This week they are sending 20 grade Holstein heifers to Tulare, and a registered Berkshire boar to Stockton. In the future their dairy herd will contain none but registered Holsteins.

Creameries in Humboldt county paid the following gross prices for butter fat during the month ending June 15th; Abrahamseu, 24½; Capital, 25; Coldbrook, 24; Cold Spring, 24½; Cream Valley, 25; Crown, 24½; Elk River, 24; Excelsior, 24½; Ferndale, 24½; Grizzly Bluff, 25; Independent, 25½; Silver Star, 25; Arcata, 24; Diamond Crystal, 23; Premium, 25; Minor, 22½.—Dairy and Produce Review.

The new creamery at Mt. Eden, in Santa Clara county, began operations June 15th.

The National Association of the State Dairy and Food Department will be held in St. Paul, Minn., July 21-24. The four days program is filled with addresses and papers by some of the most eminent specialists of the country.

W. M. March of this city, has sold his fine three-year-old Guernsey bull, Belfilius, to a Mr. Rodoni of Pescadero, San Mateo county. This bull was bought from F. W. Trapp of Westminster, Mich., and brought here by Mr. March last year.

At the annual meeting of the Holstein-Friesian Association of America, held at Syracuse about June 1, there were certain changes made in the advanced Registry which we give below. These changes we give almost in full because of the special interest which has been manifested in the butter-fat test. Heretofore the percentage of increase was considered to be one-fourth, whereas, as will be noted below, the present rule specifies that the increase shall be one-sixth. The following are the rules:

1. Requiring that a period of at least six days shall elapse after a cow drops her calf before an official test shall commence.

2. Requiring that the computation of butter from butter fat shall be made by adding to the amount of fat one-sixth of said amount, which shall then be given in pounds and ounces. This computation shall be made by the Superintendent of Advanced Registry, and the experiment stations shall be held responsible for only the amount of milk and butter fat reported by them. The requirements of butter fat to admit to entry in the Advanced Registry remain unchanged. For a cow calving at two years, or under two years of age, the minimum requirement being 7.2 lbs. butter fat in seven consecutive days; for a cow calving at just three years of age, 8.8 lbs.; for a cow calving at just four years of age, 10.4 lbs.; for a cow calving at five years of age or over, 12 lbs. Every day of increased age at date of calving from two to three years, from three to four years, or from four to five years increases the requirement .00439 of a pound per day.

3. The system of economic testing heretofore maintained is abandoned and in its place a requirement is made that in all cases in which the production of butter fat in seven consecutive days is 18 lbs., or more, the owner shall report, in connection with the production, the kinds and amounts of food consumed by the cow during the test, to his best knowledge and belief, under oath.

JERSEY NOTES.

The committee appointed by President Miller of the Jersey Breeders' Association, by authority of its board of directors, to make arrangements for the fair and buttr-fat test to be held this fall, consists of Messrs. E. E. Moore, Compton; Geo. W. Thomas, Riverside; C. W. Campbell, Los Angeles; A. B. White, Los Angeles; Geo. E. Platt, Los Angeles; and Mrs. L. J. Hastings of Los Angeles. This committee has power and instructions to make all arrangements and organize the fair and tests. It is probable the fair will be held about the first of October.

G. Y. Lytle has been known in Southern California as a most successful breeder of poultry. He has incorporated thorough business methods in that line of breeding and made it a money bringer. Now that he has launched in the Jersey breeding business it may readily be seen that he will get busier than ever and that Jersey breeding will, with him, prove a great success.

The American Jersey Cattle Club has issued printed proceedings of the thirtyfifth annual meeting which was held in New York, May 6.

THE JERSEYS AT ST. LOUIS.

The American Jersey Cattle Club is preparing to install a herd of Jersey cows at the Louisiana Purchase Exposition that will eclipse all previous Jersey exhibits. We are pleased to see that those who have the interests of the breed at heart are taking time by the forelock in the matter of preparing a creditable exhibit. It requires at least one year to make what might be called a fine selection when it comes to choosing forty record breakers. We sincerely hope that the contest will be taken as seriously by those who are looking after the interests of other breeds. With the rules and specifications that have been prepared for conducting the dairy test at the 1904 exposition, we believe that the best comparisons will be made in the history of the world.—Wisconsin Farmer.

INTEREST IN JERSEYS.

Orange, Calif., July 7, 1903.

Editor Cal. Cultivator: Glad to report continued activity in the Jersey line. Inquiries for Pacific Golden Lad calves are numerous. Will soon be able in some measure to supply the demand. E. M. Wheeler of Tustin, formerly of Los Angeles, a new man in the Jersey ranks, this week bought from me Pedro's Spanish Beauty, No. 169013, one of the most beautiful little cows ever bred in the state. Undoubtedly she will pass into the 14 lbs. a week list. There is never a lack of fanciers for this butter and beauty type. She brings him a Pacific Golden Lad calf shortly.

I have been a reader of the Cultivator from its beginning, and never appreciated it as highly as when reading this last issue. Was much pleased to see the interest extending north.

Geo. Y. Coutts.

BEE SUPPLIES—G. G. Wickson & Co, 123 N. Main Street, Los Angeles, Cal.

If the restaurateur smiles and says that the white stuff that he sells for butter is really butter, or if he winks and says it was "made from the milk of a white cow," call him something that rhymes with friar.—Indianapolis Journal.

JERSEY BREEDERS ASSOCIATION
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Terms reasonable. Liberal reductions to those coming from a distance.
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He's a beauty.
Registered Berks of Gentry and Biltmore blood
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FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY - DUARTE, CALIF.

AND UNCLE JOHN JUST LAUGHED.

Little Wil.. from the city watched the cows lying placidly in the barn lot, and said: "Uncle John, you must have to pay a lot of money for chewing gum for your cows."—Colman's Rural World.

NOT A RIVAL OF GOOD BUTTER.

The dairy business is safe from cheap imitation butter, but it is not safe from a competitor. Oleomargarine (uncolored) has come to stay and it will cut quite a figure; every pound of poor butter made gives oleomargarine another friend. Oleomargarine is preferable to poor butter and is bound to displace all poor butter on the market. It will never affect the better grades of butter because they are better than oleomargarine and people will buy them in preference; but poor butter will sell less and less, till in time it will be driven entirely from the market. People who will make poor butter should be compelled to eat it themselves, and with oleomargarine selling for what is and at its normal price, but little poor butter can find a place on the market.—Colon C. Lillie, in Michigan Farmer.

EFFECTS OF FOOD ON MILK.

After having looked carefully into the effects which food has on milk, the British Dairy Farmers' association has come to the following conclusions:

That when a cow is in full milk and full flesh she will give her normal quality of milk for at least a limited time, even though the quality and quantity of food be very deficient.

That when in good condition a cow will take off her body whatever is deficient in food, in order to give her normal quality of milk.

That an extra supply of nutritious food at all times increases the quality of milk, but the percentage of fat is not in any way improved by it; if anything, the tendency being rather the other way.

That an extra supply of nutritious food almost invariably very slightly increases the solids, not fat, of the milk.

That a ration poor in food ingredients has a very slight tendency to reduce the solids not fat in the milk, but has little appreciable effect on the fat.

That with a poor ration a cow in full weight will lose excess weight, while on a rich diet she will gain weight.

That, although the percentage of fat in a cow's milk may vary daily, we at present seem unable to control these variations or to account for them.

That for limited periods up to one month or thereabout, all ordinary quantities and qualities of foods seem to have no material effect on the quality of the milk.

That the only food which seems to have had any material effect on the percentage of butter in the milk is an excess of brewers' grains.

That very succulent grass has had only a very trifling effect in altering the percentage of fat.

That most foods convey some flavor to the butter, but scarcely any of them will alter the percentage in the milk.

That some foods exercise a material effect in raising the melting point of butter.

That the aim of all producers of milk, butter or cheese should be to feed what will give quantity in moderate amount and of a mixed nature, and the produce will be the best that the cow can give.

That extra quality must be looked for by improving the breeds, and judicious selection, rather than by any special foods or methods of feeding.

That the variations in the percentage of a cow's milk are caused by something, but what that something is we at present do not know, though if we did we might be able to influence the quality.

SCALE OF POINTS IN THE BUTTER CONTEST.

F. D. Coburn, chief of the live stock department of the St. Louis World's Fair, suggests the following scale of points by which to judge butter the scale is much the same as that used for several years, excepting the flavor and aroma are separated, heretofore always considered one factor.

Flavor	30
Aroma	15
Grain	25
Color	15
Salt	10
Package	5
	100

A. B. White's sale of Echo Glen Jerseys is proving successful, satisfactory prices prevailing. King's Victor King of St. Lambert and two choicest cows go to H. N. Williams of this city. One cow to J. H. Stafford of Compton. Other good animals to Mr. McKie of The Palms, John C. Keefe of Orange and others.

C. W. Campbell, of this city, phones us just before going to press that the request of the Southern California Jersey Breeders' Association for the appointment of one of its members as official butter-fat tester has been granted. C. S. Burgess of Riverside, has been endorsed by the club for that position and his appointment will doubtless be made. This appointment will place Mr. Burgess in charge of the butter-fat tests of the coming Jersey Fair, as well as recognize as official any private tests he may make.

Address all communications to
Dr. H. D. Fenimore, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given in this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

WARTY GROWTH.

Dr. Fenimore: I have a 4-year old Perchon gelding that has growth size of finger, nearly two inches long on tip end of sheath. Growth is of three months standing.—Subscriber, Anaheim.

Cut it off and touch the raw place with a little creoline on the finger once a day for a few days. Mix four ounces each of nitrate of potash and hyposulphate of soda, and one ounce of ground nux vomica give one tablespoonful in the feed once a day.

* * *

FISTULA OF THE TEAT.

I have a valuable Jersey heifer fresh for the first time; had a very much swollen and caked bag and I find that in one teat there are two openings, one about half way up the side of the teat. I would like you to tell me through the Cultivator if there is any thing could be done to close the second hole.—W. T. G., Chino.

Let the extra hole alone until the cow goes dry then pare the edges of the hole, make them raw, sew them together and with proper antiseptic dressings it will close nicely.

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Must all go by Wednesday, July 15. There are yet unsold two cows, two heifers in calf, three yearling heifers, two bulls nine months old. Highest bids received by 15th takes one or both bulls. Choicest stock is now offered at lowest prices, as place must be vacated before Wednesday.

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We have just received from the Eastern States two carloads of officially tested cows. This has overcrowded us for the present, and to make room we are offering some excellent young cows for sale. They are all in calf to our great herd bulls, and right now are in fine condition to ship. For full particulars write

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

FOWLS IN THE PHILIPPINES.

The Woman's Work in the Poultry Yard gives way this week to the following, which was sent in by Mrs. Basely's son, who is now in the Philippines. It gives a most interesting view of the poultry business in those islands:

The methods used by the natives as raisers and breeders of poultry in these islands would not meet with approbation from our enlightened American breeders.

The only thing that our native poultrymen care for are first lots of chickens and eggs, and secondly that the American soldiers shall not get hold of any of these unless he pays all that the aforesaid native asks for the fowl. This depends greatly upon the soldier's temper. If he is in a pleasant humor he may pay somewhere near the asking price; otherwise he takes the fowl on general principles.

The native as a breeder is hardly a success. He does not understand the advantage of having fowls that are well bred and therefore in the best condition for marketing purposes. With him, if a fowl appears sick or ailing, it is not a question of treatment and resulting cure; it is the will of the God and the fowl had better be killed and eaten to save its loss.

Poultry houses are a thing unheard of in this part of the world. All fowls have to get out and rustle for their individual living. An occasional handful of "mais" or corn thrown to them is all the attention they receive from their owner. Nests are anywhere that they can find a basket, box or sheaf of straw in which to lay their eggs. The eggs are small and not nearly so rich in flavor as the American eggs; they range in color from white to dark brown and are worth two cents gold apiece. Market fowls sell from twenty to thirty cents, gold, each. They seldom weigh over three or four pounds. The fighting cocks weigh from four to eight pounds and the color runs from pure white to jet black. The favorites most bet on are the "blancos" or whites; the bulecs or red and white (literally freckled) and the "negro" or black. In the year that I have been here, I have not seen a well bred chicken; though many of them bear evidence of some game breed; mostly Indian, and a few look to me a little like Sebrights, but most of them are what I have heard called "just common dung hill fowls." The hens are small and lay small eggs. They are terrible runners and flyers. From what I have been able to find out there are but four breeds common to these Islands. First are the Cochin Chinas, and here let me say it is commonly reported that the Chinese brought over the first poultry to these islands about five hundred years ago. Second, are the Jolos, originating in the island of Jolo; similar in appearance to the White Leghorn, but heavier boned and larger. Third comes the Costas, a sort of mongrel and mixed breed, and fourthly the black Spanish game. None of these are what we would call thoroughbreds.

The geese are a larger breed and range in color from pure white to a mixture of dirty gray, or black and white. They are not prolific layers; the eggs are strong to the taste and tough as is also the flesh of the goose. The natives eat the eggs of a large bird that looks like a cross between a gray crane and a heron. The egg is large and thick shelled; Its meat is tough and strong to the taste; the yolk being deep orange in color and the white blueish when cooked. The natives roll them in mud and salt as soon as they are cooked, claiming that they become thoroughly seasoned by so doing.

The ducks are domesticated wild ones, mostly mallard and teal, of which there are great quantities on the lake near here. They are small and the meat is strong and oily, due to fish eating. They lay fairly well and the eggs are fair sized. It is commonly supposed that foreign breeds of ducks came from China. The turkeys are not numerous and do not attain the size of Our American turkeys. They are brown or yellow in color and a few white; they lay fairly well, but the eggs are neither as large nor as well flavored as our turkey eggs.

C. E. BASELY.

ANSWERS TO CORRESPONDENTS.

We have four turkeys just a month old. Since they were about ten days old they have been hopping about, with distorted legs. We thought it might be leg-weakness, and gave them some pills, which had proven successful with chickens in leg-weakness. I could not see any improvement. They are hearty little fellows, excepting this leg trouble. I have fed them curd, corn-meal cake and plenty of green stuff. Can you tell me the cause, and also remedy?—A Subscriber, Watsonville.

Ans. The cause of distorted legs are several. The parents may have been too closely related; in-bred, or in poor health for some reason, the weakness may be hereditary, or it may be rheumatic, the result of damp quarters, or weakness from lice, or from indigestion, or liver trouble. It is exceedingly difficult without seeing the patients and their surroundings to diagnose a case. Look well into the quill feathers of the wings for lice and dust them well, rubbing the powder well into the roots of the feathers, move the little birds to new and perfectly clean, dry quarters, do not let them run out until the dew is off, give them charcoal to eat either in their cake or other food and try half a liver pill.

I have never had a sick turkey, but my neighbors have. One of them had turkeys dying, sent for me, I discovered lice, gave her some buhach powder to rub in and she saved every one.

Another had some dying with leg-weakness, swollen or distorted joints. She had tried everything she knew, fed them right, kept them clean, but it seemed as if they would die. She decided it was a case of certain death, but she had some liver pills in the house and she cut some in half, gave them to the turkeys, which were about six weeks old. They all recovered and lived to be eaten at Christmas. The neighbors (this was in the Mississippi valley where liver pills are a necessity) had turkeys similarly affected and fed them liver pills and they all recovered, so I would advise you to try half a liver pill. I never feed corn uncooked in any form to young turkeys; it seems to sour on their crops until after they have sported the red. After that they can eat anything.

Corn is not softened or partially digested in the crop, like other food, it goes on into the gizzard to be ground and afterwards digested, and is apt to sour or ferment on the way, so to avoid this danger I do not feed corn until they can swallow whole corn, when I feed it freely.

Silver Wyandottes

Beautiful specimens of Silver Laced Wyandotte Cockerels and Pullets. All from prize winning stock.

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1 100-lb sack "Henteeth" (the best grit) valuc	$1 50
1 100-lb sack Fancy Shell, very hard, value	1.25
1 1-gallon can "Great Lice Killer," value	1.50
1 Aspinwall Hand Sprayer, value	1.00
1 package (48 oz.) Insect Powder, value	.50

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1 100-lb. sack "Henteeth" (the best grit) value	$1.50
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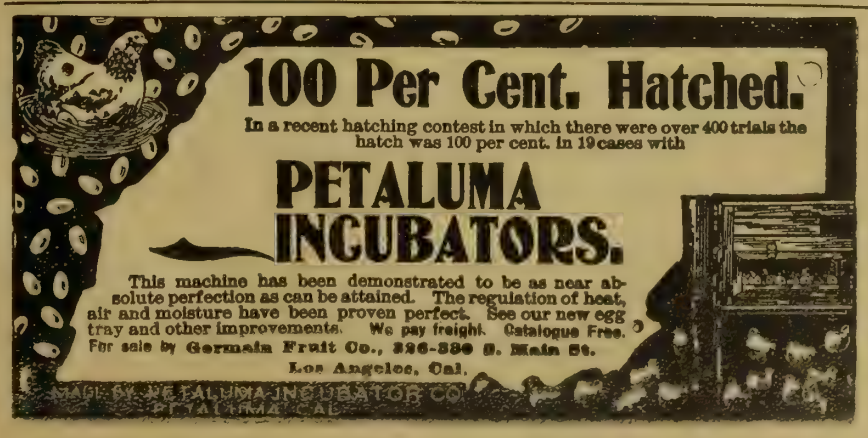

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Makes Hens Lay, Keeps Hens Strong and Healthy, Makes Feathers Grow. It costs a little more to begin with, but it is a richer and more nutritious food and is the cheapest in the end. Do not neglect to feed this food during the moulting season.

Coulson's Egg and Feather Producing Food

Is especially prepared to feed to moulting fowls, as it contains all thd elements necessary to make the feathers grow. Coulson's Egg and Feather Food is not a fattening food, but a food that makes muscle, bone and feathers. A hen may be extremely fat and yet not have the vitality to stand the strain of growing new feathers, and many hens die during the moulting process. If you want your hens to complete the moulting process quickly, and to have a beautiful, glossy plumage, just feed them all they want—a full meal at least once a day (and sometimes twice a day)—of Coulson's Balanced Ration Egg and Feather-Producing Food.

One man says that this year he has been feeding his hens Coulson's Egg Food and the hens have laid more eggs than any year before.

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THE BATTLE-SCARRED BOY.

We put him to bed in his little nightgown,
The most battered youngster there was in the town;
Yet he said, as he opened his only well eye,
"Rah, rah, for the jolly old Fourth of July!"

Two thumbs and eight fingers with lint were tied up,
On his head was a bump like an upside-down cup,
And his smile was distorted and his nose all awry,
From celebrating the glorious Fourth of July.

We were glad; he had started abroad with the sun,
And all day had lived in the powder and fun,
While the boom of the cannon roared up to the sky
To salute young America's Fourth of July!

I said we were glad all the pieces were there,
As we plastered and bound them with tenderest care.
But out of the wreck came the words, with a sigh:
"If tomorrow was only the Fourth of July!"

He will grow all together again, never fear,
And be ready to celebrate freedom next year.
Meanwhile all his friends are most thankful there lies
A crackerless twelvemonth 'twixt Fourth of Julys.

We kissed him good-night on his powder-specked face,
We laid his bruised hands softly down in their place,
And he murmered, as sleep closed his one open eye,
"I wish every day was the Fourth of July!"
—Good Roads.

MRS. BUCKLER'S SWEET APPLES.

Autumn was just beginning to reveal herself in the heart of South Mountain—the gorgeous autumn of western Nova Scotia. It was about eight o'clock in the morning, and the air that streamed lightly over the shoulders of the hills had a most bracing savor. Mrs. Buckler, a freckled but comely and tall young woman, was just setting out for a twelve-mile tramp to the little settlement in the valley, where she had to return a flatiron and a pair of wool-cards which she had borrowed of an obliging neighbor.

Neighbors, in those days, were few and far between in the country districts of Nova Scotia. The great emtpiness created by the expulsion of the Acadians had not yet been filled up. For the neighbors, it behooved them to be neighborly.

Mrs. Buckler was an untiring worker, and her rare visits to the valley constituted her only holiday. She had to walk, of course, as her husband had no horse, and she had no ambition to ride one of the faithful but extremely deliberate oxen. And indeed, a matter of twelve miles seemed nothing of consequence to her.

"Be sure and get back before dark, 'Miry!" admonished her husband, leaning meditatively against the woodpile as he watched her kiss the children for good-by.

"Shooh! Steve, I reckon you can put the babies to bed all right for once, can't you? It ain't often I get off; and when I do, I like to make a good day of it!"

"I ain't lookin' after the children that I'm thinking of, 'Miry, as you know right well!" replied Steve Buckler, earnestly. "But you know how thick the bears are on the mountain this year; and there's no manner of doubt that was a wolf brushed by me in the pasture night before last. It ain't safe for you to be coming up through the woods after dark all alone that way. Stay all night if you find it getting late!"

"Oh! I ain't afraid!" averred Mrs. Buckler, stoutly.. "I may get back afore dark; but if I don't, I'll be careful and carry a light with me!"

These confident words she flung back over her shoulder, as she started gayly down the rough woodland way.

Arriving in due time at the settlement in the valley, she did her errands, picked up the news, and richly enjoyed the rare luxury of a gossip. Time went all too quickly; and it was on the edge of dark ere she thought of starting for home. Then, of course, there were vehement protests. Her friends urged her to stay all night, picturing the perils of the journey, and representing that her husband would never dream of expecting her. But Mrs. Buckler, as her friends always said, was very "set." Putting aside all arguments, she started out on her long and lonely tramp.

She had little to carry, but that little was somewhat troublesome to manage. It was an apronful of sweet apples for the children, a treat which she knew they would enjoy. Sweet apples were then a rarity in South Mountain.

When at length Mrs. Buckler reached the last house on the edge of the valley, and found herself face to face with the long climb up the mountain, she felt compelled to acknowledge in her heart that the night was very dark. And she had yet nearly four miles to go, through almost unbroken woods. In those four miles there were but two cabins to break the monotony of the way; and the further of these was a mile and a half from her home. She hesitated a moment, then went into the house, and asked for a pine-knot to light her on her journey.

Here again she was urged to stay; but lighting her torch she set her face resolutely to the mountain side. As she penetrated among the ancient trees the unsteady light of the pine-knot cast strangely moving shadows, and monstrous shapes seemed to spring up and disappear on all sides. For the first time she grew nervous, and felt an inclination to glance over her shoulder. This she presently conquered, with some scorn. Nevertheless, she could not help hastening her steps; and the first cabin in the mountain had the air of a refuge to her, as she turned in to get a fresh pine-knot.

Here, too, she was strongly pressed to end her journey for the night. But now her obstinacy was well aroused. She was nettled at herself for having felt afraid. It was with something of the air of one who goes forth to battle that she gripped her torch and clutched her apron of sweet apples, as she turned again to the blackness of the forest path.

Between this cabin and the next the distance was but half a mile. Her nerves were now getting so well steadied that she no longer cared for the looming and shifting shadows, till at length a shadow distinctly smaller than the rest made the underbrush rustle audibly with its motion. Her heart gave a most uncomfortable leap, and she straightway thought of the wolf which her husband had spoken of. But, wolf or shadow, it fled away without menacing her; and she came in safety to the last cabin between her and home.

Here the neighbors were asleep, and she had to rouse them in order to beg another pine-knot. The one which she had got at the previous house was by no means burned out, but she feared lest it should fail before the end of her journey. The sleepy neighbors were astonished at her appearance. They threatened to detain her by force, when she refused their invitation to stay all night with them. But Mrs. Buckler was by this time a good deal "worked up," as she afterwards expressed herself; and she treated their kind persuasions with scant courtesy. She almost ran from the house; but in her apron, among the sweet apples, she carried the extra pine-knot, all the same.

To ward off unpleasant thoughts, she kept picturing in her mind the way the children would enjoy the apples in the morning. She also thought of the remonstrances, tempered with ill-concealed admiration, with which her husband would greet her return. Her blood quite glowed again as she thought of the lofty fashion in which she would make light of it all. Just at this moment she saw, in the middle of the path before her, a large black bear, watching her curiously.

Her heart stood still, and she herself instantly followed this example. Then she reflected that she must appear calmly indifferent, if she would hope to escape. Slowly she moved forward again, waving her torch; and the bear, stepping out of the path, watched her steadily from among the underbrush as she went by. Then he stepped back into the path and followed her.

Her first and most natural impulse was to run like the wind for home, but this, after one startled leap forward, she checked with a mighty effort of her will. She walked on with swift but steady steps, watching the bear out of the corner of her eye, but all the time clutching obstinately her apronful of apples. The bear, very slowly, kept drawing closer and closer, bent upon attacking her, but evidently deterred by the dread of the torch.

But the torch, meanwhile, was burning low; and Mrs. Buckles, in her excitement, failed at first to notice this. She was holding the pine-knot over her shoulder, as a sort of shield against her pursuer. When, with a shaking at the knees, she realized that it was on the point of flickering out, she tried hastily to light the other; and in the effort some of her treasured apples fell out of her apron, and rolled behind her on the path.

As soon as the bear came to these apples he stopped, and began devouring them with the keenest relish.

"Why!" thought Mrs. Buckler, with a sudden lightening of her load of terror; "it's not me he's after, but the sweet apples!" and straightway all her old courage returned.

She paused, and took time to light her new pine-knot deliberately and well. Then she hurried on; and it was some minutes before her pursuer was again at her heels.

And now, so sudden are the revulsions of a woman's feelings, she was concerned only for the sweet apples. They were the children's apples; and it went sorely against her grain to let a bear have any of them. Not until he had come most uncomfortably close could she bring herself to again propitiate him; and then she doled out but three of the precious green globes, dropping them on the path behind her with slow reluctance.

The animal took perhaps a quarter of a minute to dispose of this niggardly contribution, and then came on again with a sort of hopeful confidence.

"No," declared Mrs. Buckler, firmly, " you ain't goin' to have another one!" and she fairly broke into a run. But when that heavy, shambling gallop sounded close at her back, her resolution weakened, and she dropped a couple more out of the apron. While the much gratified bear delayed to eat these, she rounded a turn of the road, and was gladdened by the sight of her own window glimmering some two hundred yards in front.

Calling her husband's name two or three times at the top of her voice, till she saw him fling open the door and rush out to meet her, she hugged the remnant of the apples to her breast, flung her torch at the bear, and sped like a deer toward the house. Whether the bear followed her further or not, she never knew. It certainly did not come near enough to the house for her husband to catch sight of it, for, as she flung herself into his arms, panting, triumphant, half way between laughter and tears, he asked her what was the matter.

"Matter!" she cried, indignantly, "That's just like a man, after all I've gone through to get home!" and she pulled him violently into the house and slammed the door.

Steve Buckler was quite too judicious to remind her of the fact that he had urged her either to come home before dark, or else stay all night. He did not even let it appear in his face for an instant that he thought of such a thing. He listened to the story with all the breathless excitement that she had anticipated, praised her bravery and resource, vowed to shoot the bear next day, ate one of the sweet apples, and then, being very sleepy, went to bed. But Mrs. Buckler, before she followed his example proudly tucked several of the apples under the children's pillows.—N. Y. Independent.

"But why did they break off the match at the last moment?" "Oh, the color of his hair killed everything in her trousseau."—Life.

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Los Angeles Markets.

Los Angeles, July 9.

Peaches are arriving in large quantity and of good quality. The first shipment of a full car arrives today. It is of Alexanders and Crawfords.

Cherries are about at end of the string. All that come are quickly picked up at $1.25.

Extra fancy 'cots still command 2c in a jobbing way.

The scarcity of feed is holding butter firm, though there is no material advance since last issue.

Eggs are firmer and supply hardly up to demand.

Poultry, as susual, in strong demand.

Potatoes strong and not as many in market as it would take up.

Job lots, f. o. b., Los Angeles, are quoted:

Butter.

B. of T. Creamery, per -lb roll		60
Coast Creamery	.55	
Cooking per lb	.22	25

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	.16	17
Domestic Swiss	.19	
Imported		.28

Eggs.

Fresh Ranch	.20	21
Store, case count	.19½	20½

Potatoes.

New Potatoes		1.00

Beans and Dried Peas.

Limas	3.85	3.95
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.75
Onions, red		.75
Onions, green	.10	
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.45	
Carrots, per sack		.90
Chiles, green, per lb	.11	.15
Peas, green, per lb	.05	07
Lettuce, per sk	.40	.60
Radishes	.15	
String Beans	.02½	.05

Fruits; Fresh.

Apricots, box of 30 lbs	.40	.60
Cantaloupes—Per crate	2.50	6.50
Figs—Per box		.60
Strawberries, bx, fancy	.05	
Raspberries—Per box	.05	.07
Blackberries—Per box		.03
Logan Berries—Per box	2½	.04
Cherries—Per box	.90	1.25

Fruits; Dried.

Apricots	.04	.06
Pears	.07	.08
Peaches peeled	07	08
Peaches, fair to good, sks	.03½	05
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.06
London layers, per box	**1.00@2.00**	
Loose, per box	6¼	7

Poultry.

Spring chickens	.15	.16
Hens, No. 1, per lb	.12½	13
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22	.23
Ducks, per lb	.10	.13

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	**4 00**	**5 00**

Hay and Grain.

Barley hay	8.50	13.00
Alfalfa, large bales	9.00	10.00
Wheat Hay	9.00	12.00
Barley, old		1.30
Barley, new crop	.70	.80
Corn, per ctl		1.40
Wheat	1.60	
Oats	1.35	1.40
Bran		1.15
Rolled Barley		1.25

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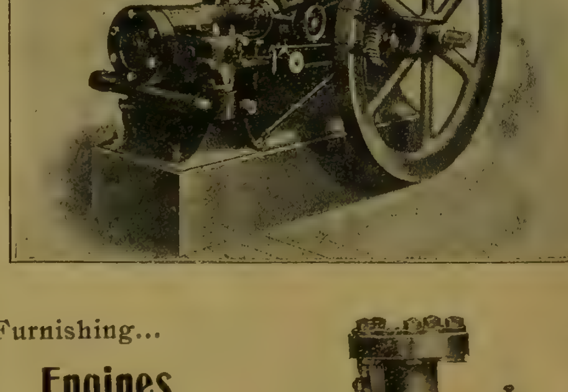

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SAMSON IRON WORKS STOCKTON CALIFORNIA

San Francisco Markets.

San Francisco, July 9.

Dairy.

Butter is much the same as last week, quotations being identical, but if anything the demand is slightly less, with a weakening tendency. Cheaper grades of butter are in abundance, which tends to bear the market. Some sales for fine stock are reported at 26. Receipts are reaching to 80,000 to 100,000 pounds per day. Quotations are:

BUTTER—Per lb:

Creamery, extras	.25	
Creamery, firsts	.23	24
Dairy, extras	.22	@22½
Dairy, firsts	.20	@21
Store	.18	@19

CHEESE—Per lb.

Cal. Creamery, mild, new, extra	.13	13½
Cal. Creamery, mild, new choice	.12	@12½
Young America	.13	14
Eastern, New York Cream	.18	19

Eggs and Poultry.

There is a slight change for the better in eggs. Better grades are quickly taken. "Dirties" and ordinary stock slow sale.

EGGS—Per doz:

Ranch, selected large	.20	21
Ranch, good to choice	.18	19
Store	.15	@17
Eastern	.17	@19

POULTRY—Old Roosters, per doz., 5.00@5.50; young Roosters, $8@10; Fryers, $5@6; Broilers, large, $3.50@4; small, $2.50@3; Hens, $4.50@6; Ducks, per doz, old, $3.50@4.50; young, $4@5; Turkeys, nominal; Geese, per pair, $1@1.50; Goslings, $1@1.50; Pigeons, per doz, young, $1.75; do, old, $1.50@1.75.

Fruits and Vegetables.

The fresh fruit market has been more or less unsteady with much indifferent fruit offered. This depressed all prices and gave buyers the advantage. Choice stock was quickly picked up.

Peach are yet hard and green and reported as not attractively packed.

Bartlett Pears are in slightly increasing quantity but as outside demand is yet slight the price is not satisfactory.

Handsome apples, with neat pack, are wanted and would command above the market at this time.

Nutmeg melons are coming in from Winters and command full quotations. Coachella supplies most of water melons and cantaloupes market however.

Berries are steady, with surplus taken up by canners, which steadies the market.

Vegetables are abundant and values for several descriptions showed marked depreciations. Both Tomatoes and Green Peppers are arriving freely in large quantities and receipts in ecess. Green corn is also offered freely at reduced prices, supplies being exceptionally liberal.

Quotations are:

FRESH FRUITS.—Apples—Per box, common to choice, 25@75; fancy, $1@1.25.

CHERRIES—Per box: Black, 75@85c; Royal Anne, 65@85c; bulk, per lb., 6@8c; Royal Anne, 6@8c.

PEACHES—Per box, 35@65; basket, 30@50c.

PEARS—Per box: No. 1 Bartlett, $1@1.25; other varieties, 35@$1; basket, 20@35c.

PLUMS—Per box or crate, 25@75c; baskets, 15c@40c, as to variety.

PRUNES.—Per box or crate, 40@75c; basket, 25@50c, as to variety.

FIGS—Per box, 25@75c.

APRICOTS—Per box, or crate, 50@75c; basket, 12½@35c; bulk, per ton, $15@30.

Cantaloupes—Per crate, $2.50@3.50.

NUTMEG MELONS—Per box, $1.75@2.

WATERMELONS—10@35c each.

GRAPES—Per crate, Seedless, $1@1.25.

BERRIES—Per chest: Strawberries—Longworth, $5@7; large varieties, $2@3; Blackberries, $2.50@4; Raspberries, $4@6.50; Logan Berries, $1.50@2.50; Currants, $2@3.50.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, $1@2.50, as to quality; Valencias, $2@$3; St. Michaels, $2@3; Seedlings and Mediterranean Sweets, $1@1.25; Lemons, $1@3; Grape Fruit, $1@2; Limes, $5.50@6.

VEGETABLES—Asparagus, per box, $1@2.50; Rhubarb, per box, nominal; Tomatoes, local, per box or crate, 35@65c; do, river, large box, $1.50@1.75; Green Peppers, per box, Bell, 65c@$1.25; Chile, 75c@$1.40; Dried Peppers, 6c; String Beans, per lb, 2½@4c; Wax, 2½@4c; Green Peas, per lb., 4@5c; Egg Plant, 6@8c; Summer Squash, per box, 25@85c; Cucumbers, per box, 50c@$1.25; Garlic, per lb., 2½@3½c; Green Corn, per sack, 75c@$1.50; crate, $1@1.75; Okra, per lb., 20c.

ONIONS—New Silver Skins, per ctl., 60@75c; Red, 35@45c.

POTATOES—Per ctl.: New Whites, box, $1.15@$1.75; sacks, 75c@$1.15; Early Rose, $1@1.25; Garnet Chile, $1.25@1.40; old Oregon Burbanks, $1.50@1.75.

Dried Fruits, Nuts, Etc.

Previous prices still rule and are well maintained for the spot stocks of Dried Fruit, although the outward movement is of a small jobbing character. Speculation in futures continues very small, operators being skeptical and showing but little interest. Apricots are being freely offered in the San Joaquin section at from 7c to 7½c, but no liberal transactions have been reported. The first arrivals of new comb Honey have found an excellent market and slightly firmer rates are now being asked.

DRIED FRUITS.—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1902 crop are, per lb., as follows:

Apples—Evaporated, 4@6½c; Sun Dried, 3@4c.

Apricots—Royal, 6½@8½; Moorparks, choice, 9c.

Peaches—4¼@6½c; peeled, in boxes, nominal.

Pears—4¾@9½c.

Plums—Pitted, 4½@6c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2⅝@2¾c with ½@1c premium for large sizes.

Nectarines—Whites, 4@5½c.

Figs—White, 5½@6c; Black, 5c.

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—Comb, per lb., nominal; Extracted Water White, 7c; Light Amber, 6½c; Dark Amber, 5c.

BEESWAX—Per lb., 32c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown, $1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16

Live Stock.

Conditions in live stock market are much the same as last week:

Quotations are:

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin steers, 7@7½c; No. 1 Cows and Heifers, 6@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb.: Fat Wethers, No. 1 4@4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb., live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 140 lbs and over, 6¼@6½c; weighing under 140 lbs, 6@6¼c; weighing 260 to 350 lbs., 5¼@6c; rough heavy, 5½@6c.

Hay and Feed Stuffs.

HAY AND FEEDSTUFFS.

HAY—Prices on New Hay, per ton: Wheat $9.50@12.50; Wheat and Oat, $9.50@12; Oat, $8@11; Barley, $8@10.50; Clover, $8@10; Alfalfa, $8.50@$10.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50.

FEED CORN MEAL—Choice grades, per ton, $27.50@28.50.

MIDDLINGS—Per ton, $27.50@@28.50.

BRAN—Per ton, $24.50@25.50.

CRACKED CORN—Choice quality, per ton, $28.50@29.50.

Holders report a slightly increased inquiry for the leading descriptions of Beans, more especially Pinks, but as buyers' ideas as to prices are slightly below sellers' asking figures no important sales are consummated.

Wheat seems to share stronger tendency and is slightly higher in price.

BEANS—Prices per ctl: Large Whites, $3@3.15; small, do, $3.15@3.30; Pea, $3.25@3.50; Lima, $3.50@3.65; Red, $2.90@3; Pink, $3@3.15; Bayo, $3.65@3.75; Blackeyes, $2.75@3; Red Kidneys, nominal.

Hops.

The prices for new crop are 18 @20c per lb, according to quality.

MARKET NOTES.

Apricot drying and canning is on in full force this week. This crop in Southern California will go a little over half of last year, but the quality will be very much better. From $15 to $20 per ton is being paid for ripe apricots. There is a little demand for July delivery of dried 'cots at 7 cents. No prices offered for regular crop.

THE FOREIGN ALMOND MARKET.—One of the most reliable informants, located at Aix, in Provence, advises: The frosts have seriously damaged the growing crop in this region. We shall have probably one-fourth of the ordinary crop; last year we had a half crop. A good average crop should give to us in France from 25,000 to 30,000 bales. Spain should furnish this year a very large quantity of almonds. The crop in Italy will also be good, particularly in Sicily and at Bari. As we receive in Aix a large quantity of almonds from Italy, Spain, Morocco and the Levant, and subsequently remove the kernels, classify them and subject them to the industrial preparation which public taste requires, it as fair to assume that the exportations from this market to the United States will undergo no diminution. Such is our sincere belief in spite of the bad prospective in this immediate region." Another correspondent writes: "All in all, the crop of 1903 will be good."

ITALY.—Everything points to a good crop in Sicily and Sardinia.

SPAIN.—From the Balearic Islands, a good crop is announced, and we have the same news from the province of Alicante, and the coast of Tarragona. Some damage has been done in Aragon by bad weather.

THE RAISIN CROP.—Report of the Consulate of the U. S., at Valencia, says: Present prospects for raisins are exceptionally hopeful, and, under a continuance of favorable weather, conditions point to a crop of 600,000 cwts. as compared with 380,000 cwts. in 1902, 495,000 in 1901, and 587,200 in 1900. No stocks whatever remain in the district and in foreign European markets are practically exhausted, only 200 tons remaining in London. It should, of course, be remembered by California growers that the early promises of big raisin crops in this district are seldom fulfilled. The period of growth between the formation and harvesting of raisin grapes is particularly exposed to brusque meteorological changes, and a hot wave, a hailstorm, or protracted drought, frequently reverses the fairest prospects.

Report of D. R. Birch, U. S. Consul, Malaga: Reports from reliable sources indicate that the Malaga raisin production of 1903 will exceed in size the 1,000,000 box crop of last year, which was rated as the largest yield for 15 years. This is the present outlook conditional upon the prevalence of favorable weather from now on until the first week in September, when the raisins are prepared for shipment. Advices received from the surrounding country are to the effect that the vines at present are burdened with fruit to an extent unknown for many years. Optimistic growers profess to believe that the forthcoming crop will reach one million and a half of 22 lb. boxes. These figures are, however, in the opinion of local exporters, somewhat too high, even in the face of exceptionally fine weather conditions.

Eastern Markets.

New York General Market.

NEW YORK, July 8.—Wheat; Spot dull; options closed ⅛c lower; July closed 84¾; September closed 82¼; December closed 81¾. Hops steady. Hides dull. Wool firm. Petroleum steady. Coffee spot quiet. Sugar, raw and refined, steady.

Grain and Produce.

CHICAGO, July 8.—More favorable weather in the Northwest caused an easier feeling in wheat at the start today.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 78@79; No. 3, 75@78; No. 2 red, 78½@79½; No. 2 corn, 51@52; No. 2 yellow, 51⅛@52; No. 2 oats, 41; No. 3 white, 37@41½; No. 2 rye, 51; good feeding barley, 40@43; fair to choice malting, 47@51.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	34,600	18,300
Wheat, bushels	52,300	124,500
Corn, "	459,000	133,100
Oats, "	542,000	116,100
Rye, "	16,200	....
Barley, "	66,000	....

Chicago Live Stock.

CHICAGO, July 8.—Cattle—Receipts 12,000, including 5000 Texans; market 10@20c higher. Good to prime steers, 4.90@5.45; poor to medium, 3.90@4.75; stockers and feeders, 2.50@4.40; cows, 1.50@4.25; heifers, 2.25@4.40; canners, 1.50@2.80; bulls, 2.25@4.00; calves, 2.50@5.75; Texas fed steers, 3.35@4.45.

Hogs—Receipts, 30,000; tomorrow, 25,000; left over, 5500; 10@15c lower. Mixed and butchers,' 5.40@5.65⅛; good to choice heavy, 5.50@5.60; rough heavy, 5.25@5.45; light, 5.50@5.80; bulk of sales, 5.50@5.80.

Sheep—Receipts 12,000; sheep and lambs, steady to firm. Good to choice wethers, 3.75@4.00; fair to choice mixed, 3.00@3.50; western sheep, 2.50@3.75; native lambs, 3.00@6.50; western lambs, 3.50@6.10.

California Dried Fruits.

NEW YORK, July 8.—The market for evaporated apples is quiet and prices unchanged. Common, 5@5¼; prime, 5¼@5¾; choice, 6; fancy, 6½@7½. Spot prunes are firm. Prices range from 3 to 7 cents for all grades. Apricots are steady and unchanged at 7¼@8½ for choice, and 10@12½ for fancy. Peaches are quiet and without feature; choice, 7@7½; fancy, 8@10½.

DAIRY MARKETS.

NEW YORK, July 8.—On the Produce Exchange today the butter market was steady; creamery, 16@20; dairy, 14½@18; eggs, setady, 13@14½; cheese, easy, 10@11½.

CITRUS MARKETS

ORANGE MARKETS.

The orange market is slightly more satisfactory than last week. However, much of the fruit is arriving in bad condition. This especially applies to navels, seedlings and sweets. Valencias as a rule have arrived in good condition, although some of this fruit has shown decay. Fine stock has found ready sale, but off sizes and some lower grade fruit have sold so as to give red ink returns to the grower.

LEMONS.

The lemon market has shown marked improvement because of the heated term which has prevailed through most of the East. The fruit has been arriving in good condition and good quality, and most satisfactory terms have been given to growers. The poorer stock, especially ripe picked, have shown some decay and made poor sales.

The total shipment from November 1st to date aggregate 20,142 cars, of which number 2,025 are lemons.

The following prices from the Eastern auction markets will give an intelligible idea of the prevailing markets over the East.

NEW YORK, JULY 1.

C. C. U., Redlands, Camellia Mikes, $3.40. Blossom Mikes, $3.05. Blossom sweets, 5 per cent decay, $3.65. Blossom seeds, 7 per cent decay, $2.30.

Riv. Fr. Ex., Blue Globe navels, 7 per cent decay, $3.10. Red Globe navels, 15 per cent decay, $2.65.

S. T. Fr. Ex., Cal. Belle Mikes, 7 per cent decay, $3.40. Carmencita Mikes, 7 per cent decay, $3.05.

A. H. Fr. Co., Squirrel lemons, 7 per cent decay, $2.15.

A. H. Fr. Co., Palm Tree Valencias, $3.05. Silver lemons, $3.90. Squirrel lemons, $3.25.

Q. C. Fr. Ex., Beauty lemons, $1.90. Leader lemons, 10 per cent decay, $1.55. Monogram lemons, 20 per cent decay, $1.30. Beauty grape fruit, 15 per cent decay, $.65.

BOSTON, JULY 1.

Market steady.

C. C. U., Pasadena, Victory seeds, $1.95.

Riverside Fr. Ex., La Mesa Mikes, $3.80. Golden Rule Mikes, 5 per cent decay, $3.40. Golden Rule sweets, $3.15. Golden Rule Homosassas, 10 per cent decay, $2.90.

O. K. Fr. Ex., Bear sweets, $3.65. Quail sweets, 5 per cent decay, $3.05. Quail Mikes, 10 per cent decay, $3.60.

O. K. Fr. Ex., Quail navels, $3.55.

C. C. U., Redlands, Herrold sweets, 7 per cent decay, $3.15.

C. C. U., No. Pomona, Lilac navels, $3.15. Lighthouse navels, 35 per cent decay, $1.75.

PHILADELPHIA, JULY 1.

Market steady.

S. B. Co. Fr. Ex., Puritan Mikes, $3.25. Tally Ho Mikes, $3.65.

C. C. U., Riverside, Turquoise seeds, 10 per cent decay, $1.95.

S. T. Fr. Ex., Whittier Valencias, 10 per cent decay, $3.85.

PITTSBURG, JULY 1.

Market steady.

Riverside Fr. Ex., U. S. seeds, $2.70. Orchard run seeds, $2.15. Fiesta seeds, $2.30. Orchard Run Mikes, 3 per cent decay, $1.95.

Q. C. Fr. Ex., O. I. C. sweets, 20 per cent decay, $1.60.

O. K. Fr. Ex., Quail navels, 7 per cent decay, $3.20.

C. C. U., Redlands, Monogram seeds, 15 per cent decay, $2.00.

C. C. U., Corona, Excelsior lemons, $1.80. Sunrise lemons, 12 per cent decay, $1.45.

C. C. U., Orange, Bison sweets, 40 per cent decay, $1.45.

CINCINNATI, JULY 1.

Market steady.

S. A. Fr. Ex., Parrott seeds, $1.80. Parrott sweets, $2.10. Parrott Rios, $2.30. Parrott Homosassa, $2.35.

S. B. Co. Fr. Ex., Gem sweets, $2.10. Flora sweets, 5 per cent decay, $2.25.

S. A. Fr. Ex., Meteor lemons, 10 per cent decay, $2.00.

Riv. Fr. Ex., Blue Print seeds, $1.95. Red Print seeds, 7 per cent decay, $1.75.

S. T. Fr. Ex., Whittier Valencias, $2.90. Pico Valencias, 10 per cent decay, $2.40.

CLEVELAND, JULY 1.

Market weak.

C. C. U., No. Pomona, Lilac navels, 7 per cent decay, $1.90.

S. B. Co. Fr. Ex., Carrier Mikes, 5 per cent decay, $2.70.

S. T. Fr. Ex., Premium lemons, 10 per cent decay, $3.30.

Riverside Fr. Ex., U. S. navels, $2.05. U. S. seeds, $1.65. Fiesta seeds, $1.50. Fiesta Jaffas, 15 per cent decay, $1.70.

NEW YORK, JULY 3.

S. B. Co. Fr. Ex., Tiger St. Mikes, 5 per cent decay, $2.95.

S. S. Fr. Ex., Choice sweets, 10 per cent decay, $1.95. choice Mikes, 5 per cent decay, $2.75.

Riverside Fr. Ex., Red Globe seeds, 10 per cent decay, $1.70.

S. T. Fr. Ex., Echo Valencias, $3.05.

BOSTON, JULY 3.

Market off.

C. C. U., Redlands, Atlas sweets, 10 per cent decay, $2.50.

Q. C. Fr. Ex., Royal navels, $1.75. O. I. C. navels, 35 per cent decay, $1.80.

NEW ORLEANS, JULY 3.

C. C. U., Santa Ana, Texas sweets, 10 per cent decay, $2.25.

C. C. U., No. Pomona, Lilac seeds, 25 per cent decay, $1.70.

PHILADELPHIA, JULY 3.

Market steady.

C. C. U., East Alhambra, Pansy Valencias, 5 per cent decay, $2.45.

CINCINNATI, JULY 3.

Market steady.

Riverside Fr. Ex., Blue Globe seeds, $2.20. Red Globe seeds, 7 per cent decay, $1.50.

A. H. Fr. Co., Squirrel lemons, $3.25. Palm Tree lemons, $3.25. Lemonade lemons, 5 per cent decay, $2.55.

BOSTON, JULY 6.

Market steady.

C. C. U., Monrovia, Peacock sweets, 12 per cent decay, $2.25. Peacock Mikes, 10 per cent decay, $2.65. Lilac lemons, $2.45.

O. K. Fr. Ex., Quail navels, 5 per cent decay, $3.45.

C. C. U., Glendale, Red Letter Mikes, 5 per cent decay, $2.75. Red Letter grape fruit,
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20 per cent decay, $.60.

C. C. U., Upland, Peacock navels, $2.70. Peacock Valencias, $2.35. Peacock bloods, $2.70. Peacock sweets, $2.70.

PHILADELPHIA, JULY 6.

Market steady.

C. C. U., Lindsay, Victory Valencias, $1.85.

C. C. U., Lindsay, Holly Wreath Valencias, $3.15.

C. C. U., Colton, Blossom sweets, $2.25. Blossom seeds, 10 per cent decay, $1.70. Angel sweets, 10 per cent decay, $2.35.

C. C. U., Alhambra, Trumpeter lemons, $1.85. Victory lemons, $2.15.

NEW ORLEANS, JULY 6.

O. K. Fr. Ex., Blossom lemons, 35 per cent decay, $1.80.

NEW YORK, JULY 6.

O. K. Fr. Ex., Bear navels, $4.15. Quail navels, 5 per cent decay, $3.10.

V. Co. Fr. Ex., Selected seeds, 10 per cent decay, $1.95.

S. T. Fr. Ex., Echo Valencias, 7 per cent decay, $2.95.

T. Co. Fr. Ex., Perfection grape fruit, 7 per cent decay, $2.00.

CLEVELAND, JULY 6.

Market is advancing.

C. C. U., Pasadena, Victory Valencias, $2.40. Victory Mikes, 5 per cent decay, $2.75.

Riverside Fr. Ex., Red Globe Mikes, $3.85. Extra Standard Mikes, $2.30. Blue Globe grape fruit, 5 per cent decay, $1.45.

S. T. Fr. Ex., Premium lemons, $4.05.

PITTSBURG, JULY 6.

Market weak.

C. C. U., Riv., Turquoise seeds, 10 per cent decay, $1.70.

Riv. Fr. Ex., Red Globe seeds, 10 per cent decay, $1.70.

C. C. U., Whittier, Pansy Valencias, $2.55. Bison Valencias, 15 per cent decay, $1.85.

Q. C. Fr. Ex., Queen Bee sweets, $1.75. Royal sweets, 20 per cent decay, $1.45.

S. S. Fr. Ex., S. S. lemons, 20 per cent decay, $2.00.

C. C. U., Fernando, Trumpeter sweets, 17 per cent decay, $1.35. Riv. Monogram seeds, 15 per cent decay, $1.45.

D-M. Fr. Ex., Violet navels, $2.00. Violet Aust. navels, 12 per cent decay, $1.85.

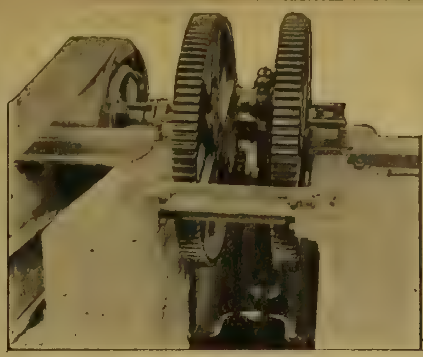
CINCINNATI, JULY 6.

Market declining.

S. A. Fr. Ex., Harmony Mikes, $2.30. Pet Mikes, 7 per cent decay, $1.85.

C. C. U., Anaheim, Ex. Choice sweets, 10 per cent decay, $1.55.

S. S. Fr. Ex., Standard Lemons, 5 per cent decay, $3.05.



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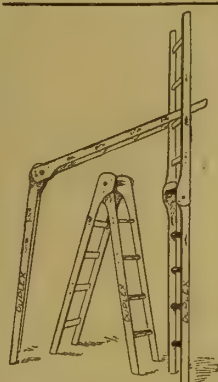

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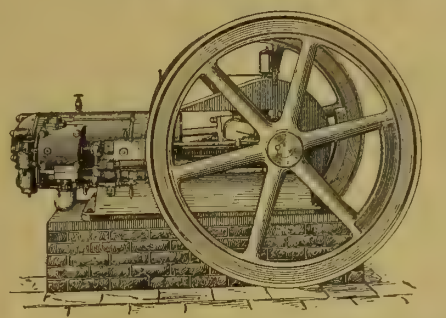

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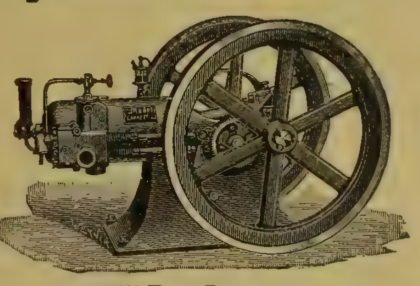

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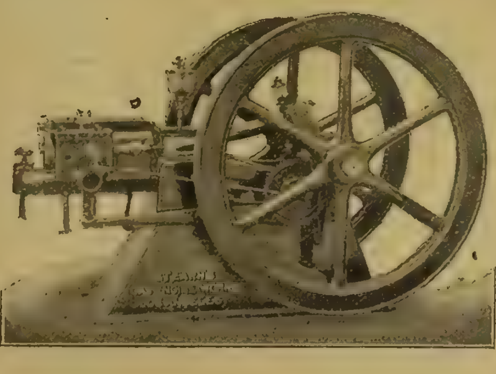

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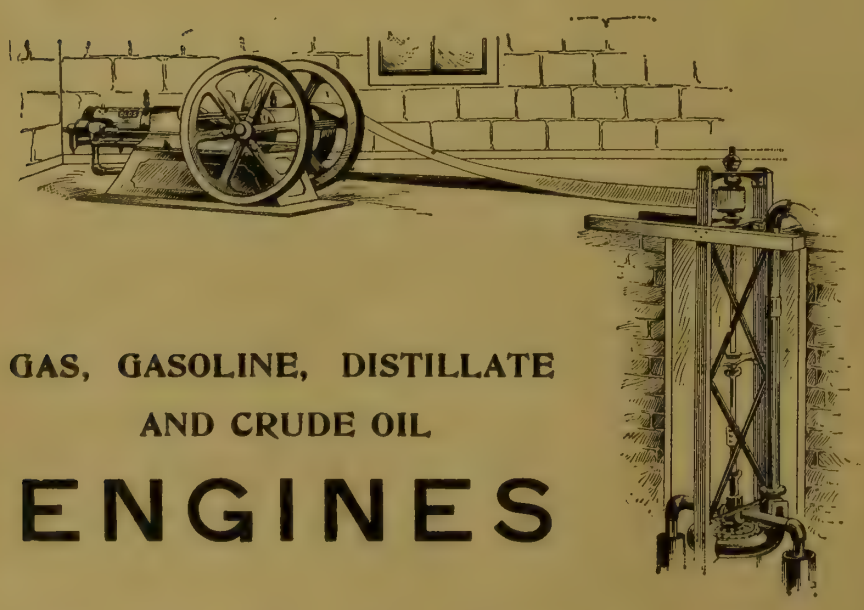

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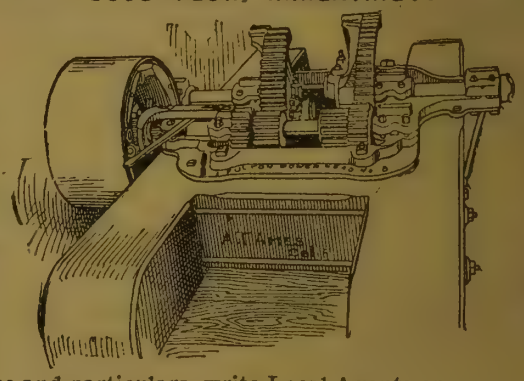

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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 3 | LOS ANGELES, CAL., FRIDAY, JULY 17, 1903 | Subscription $1 a Year

California's Big Grain Fields.....

Nowhere in the world has the handling of grain on the farm reached the degrees of perfection which it has in California. That great central valley, running three-fourths the length of the state, is one great hay and grain field. Not to the exclusion of all other forms of farming, for in it there is produced most of the raisins of the world, as well as all kinds of fruits, all varieties of agricultural products, and dairies that are the pride of the country.

Delivering Grain—Fresno County.

Yet we repeat, as a rule, the Great Valley from Tehachapi nearly to Shasta, is a great grain field. These great plains that pass the car windows for hours are filled with busy men, maneuvering labor-saving machinery that is a wonder, and enables the cheapest handling of grain.

The land is plowed by steam power, often, the harvesting is done by combined harvesters and threshers that go through the standing grain and leave behind the cleaned and sacked product ready for market.

This economy of farming is appealing to Europe—even Spain is awakening. In a call at the office of the Holt Manufacturing Company, at Stockton, recently, we were informed by Manager Dickinson that one of the traction engines, so popular in this state, had been shipped by this company to Spain and was now working on one of the big estates there. Outside the shops were dozens of the monster "tractions" waiting to go to fields to work on this season's crop.

More spectacular, perhaps, than the engine drawing the "combined," is the original horse and mule power. Thirty horses on one machine makes a large caravan. The number of horses has been vastly reduced this year in some cases by an invention of the Samson Iron Works of Stockton. Or rather the application of an idea. It is simply the placing of a gas engine on the thresher to propel the machinery. This gives uniform motions, takes only enough horses to propel the manchine and is proving satisfactory.

From field the grain goes direct to mill, or ship, or possibly to storage. Stockton alone has storage for 175,000 tons of grain.

Benjamin Walton, of Los Angeles county, makes a strong appeal for a bounty on coyotes. He says they kill vast numbers of chickens, turkeys, pigs and lambs, and are a discouraging feature in the small stock industry. This is not only in the outlying foothill ranches, but in thickly settled sections. Mr. Walton urges the Los Angeles Chamber of Commerce to take the matter up. If Wiggins didn't have the World's Fair on his shoulders the coyote might have to go. But really the coyote problem is worth considering.

Combined Harvester and Thresher.—Cuts, threshes, cleans and sacks grain at $2.00 per acre.

A Fresno County Irrigating "Ditch."—As one nears Fresno from the north, after riding for hours through the grain fields, he will see many new irrigating canals, not yet filled with water. Nearer Fresno the larger canals filled with water are large enough for row boats.

Essentials of Silo Building.

The silo has not found the welcome in California which it did in the East with its winter seasons. The ease with which a farmer may provide green feed much of the year is the probable explanation. But even here year by year the silo has grown in favor. It has resulted in greater flow of milk and in a most economical feed.

The feed may be used at once, or it will keep for (it is claimed) five years. Corn is of course the favorite, alfalfa being preferred as hay to using it for ensilage. Sorghum is a good addition to corn for silage but too acid if used alone.

Forty to fifty pounds of silage per day per cow is the usual feed. Well matured corn silage at the bottom of a 30-foot silo will weigh fifty-five pounds. At the top it may not weigh more than thirty pounds. The average for the thirty-foot silo is, to be more exact, 39.6 lbs. per cubic foot. So a ton would occupy about 50 cubic feet or a little over. A silo 30 feet high and 15 feet in diameter would contain 115 tons of silage from well matured corn.

In five pounds of silage there is 1.25 pounds dry matter, .06 protein, .67 carbohydrates and .03 fat, or a nutritive ratio of one to 11.7, as compared to beet pulp, we may add five pounds to beet pulp. We may add, in five lbs. dry matter, .05 protein, .37 carbohydrates, .006 fat, nutritive ratio, one to 7.6. Doubtless the value for feeding would be nearly three to one in favor of corn silage.

It is claimed by an Eastern writer that a cow in full milk and taken from good corn silage and put upon the best blue grass pasture will shrink materially in flow.

If these statements prove anything it is that silage is a profitable and excellent feed. Therefore some of the

(Continued on page 40)

CALIFORNIA CULTIVATOR

ESTABLISHED 1860
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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Friday, July 17, 1903

Circulation this issue 8,000

At a recent meeting of the Riverside Farmers' Club an extended discussion was given to the black scale pest and how to destroy it in the orchards about Riverside. Fumigation was sustained by some of the growers, some going so far as to say that they would not tolerate a spraying outfit in their orchards. The majority, however, decided in favor of the spray being the cheapest and most effective plan of work. The decision was finally reached to appoint a committee to try and organize the growers of different communities so that each community, aggregating about 100 acres, should pool together and buy a spraying outfit. It is estimated that to cover that section twenty machines will be required. The committeemen appointed to carry out this work are: J. R. Cuttle, J. H. Reed, A. J. Everest, S. L. Wright, B. B. Wright, L. F. Darling, H. E. Meacham, C. E. Kennedy, F. D. Hudson, Reginald Brindsmeade.

The California building at the World's Fair will be patterned after the old mission type for which the State is noted. It will embrace the characteristics of the old Spanish architecture.

New hay coming into the Northern markets is of the best quality, but it is apparent that there will be a very short crop with probable high prices.

Lindsay, Tulare county, has shipped about 60 cars of Valencias this season. This is the heaviest Valencia shipping point north of Tehachapi.

It cost the taxpayers of the State of California $10,446,773.36 to maintain the state government during the fiscal year just ended.

Report has it that the Oregon prune outlook for this season is favorable to an immense crop.

There is no higher calling given than that of the farmer. In a large sense he is a creator.

BIG FLEAS HAVE LITTLE FLEAS.

The study of insect life brings out most interesting information to one who has the patience to follow his studies closely enough. Not the least interesting phase of this tiny life is the incessant warfare of other forms of life upon it. Usually the warfare of the smaller upon the greater. If it were not for this fact the life of the soil tiller would indeed be a burden, with all the myriads of insects increasing in their natural way and destroying all vegetable life before them. The pest of "army worms" so-called, this spring, gave something of an idea of the conditions which might prevail.

But fortunately this "worm" has its parasite and of all the milions of the larva which went into the pupa state, but few hatched into the butterfly to reproduce another "army" next year. Their lives were sacrificed to give life to a far smaller insect, a parasite, the egg for which was deposited on the caterpillar.

These facts were shown a Cultivator reporter by that indefatigeable worker, S. A. Pease, horticultural commissioner for San Bernardino county, at his office, recently. Mr. Pease has a room full of insects and of object lessons which are well worth the time of a visit. He has branches and foliage and fruit, all showing ravages of scale, or of mite or of aphis or other pest. He has case after case of insects, and can tell much of interest of their life habits.

Of course at the time of the visit of the pest of "army worms" the larger part of which "army" consisted of Pyrame's cardui or Painted Lady, and in part of Peridroma saucia, or the more common cut worm. Mr. Pease proceeded to study what is in store for us another year. A large number of the pupae were housed in glass jars and developments waited. Only a very few ever matured. The greater number brought forth life in a different form. Mostly a very small fly, though some a large fly, larger than the common house fly. These Mr. Pease has sent to Washington for a name and for their life history.

The larvae of these flies had spent their existence in the body of the caterpillar and in the chrysalis , the death of which they caused. Next year there will be no army of caterpillars because of these parasites.

This is not an isolated case. It is only an example of hundreds of others like Vedalia Cardinalis, Rhizobius, Comys Fusca, and "so on adinfinitum."

NOBODY CAN HELP IT.

Referring to the element of fruit growers at Highlands which has joined in with New York fruit commission men to form an association to handle fruit independent of the California Fruit Agency, the San Francisco Chronicle says:

"It is queer to note how easily farmers can be fooled. The Citrus Union of the southern counties is an attempt to unite farmers and shippers of citrus fruits in an effort to obtain from that product all that the traffic will bring and divide the proceeds as the parties in interest can agree. There has been no suggestion that the proposed division is unjust, and whatever one's opinion as to the "morality" of "trusts" of any kind, it is obviously to the interest of all growers to get into this one. Eastern dealers, however, are not likely to become agents of the trust, object to being shut out, and readily find confederates on this side who are ready to assist them in getting "outside fruit."

It is difficult to see why the owners of these 500 acres of orange groves should wish to sell in a competitive market when they have a chance to join a monopoly. They have simply been stirred up and fooled by commission men who want to get their fruit. Nobody can help it.

As to the "trust" feature of the above see Mr. Jeffrey's article on next page.

The largest tree in Oregon was felled recently to be sent as a curiosity to the World's Fair. It is the Aberdeen spruce and stood nearly 300 feet high, 40 feet around and 118 feet from the ground to the first limb. Its age is calculated at 440 years, being a good sized tree when Columbus discovered America.

CLAIMING TOO MUCH.

Press reports from Berkeley are to the effect that Professors Woodworth and Clarke, who have been experimenting on the codling moth in the Pajaro valley have completely exterminated that pest and have discovered that Paris green is an efficient remedy for it. Professors Woodworth and Clarke are both modest and scientific men, and can hardly be responsible for the many absurd statements made by the Berkeley press agent who deals more in sensations than facts and whose almost daily statements in relation to the work of the University entomological department evinces his ignorance and places it in a ridiculous light. The University professors have been carrying on a series of carefully planned experiments against the codling moth, using most of the known compounds, and some new ones. They have concluded that the old reliable Paris green spray, when rightly applied is the best remedy so far known. They have kept a careful record of their work, and when the results are fully known there is no question but that their labors will be beneficial, and tend much to the control of the pest nereafter. This will be glory enough. But in their own interest they should shut off this news maker who has stated that they have discovered the life history of the codling moth, given us the Paris green spray, and saved the entire apple crop, and all this before the season is half over, or their investigations nearly finished.

BERRY GROWERS ORGANIZE.

The effort to establish a berry and small fruit growers' association, with the object of better distributing and handling of small fruit, and also, possibly, of establishing a cannery for working up surplus, is meeting with much favor on the part of the berry growers. The organization so far is kept within local fields, but it is hoped later that a sufficient number of these local organizations may be effected to all join together in the forming of a cannery company.

The initial step seems to be taken by the berry growers about Moneta, as we noted in these columns some weeks ago. They have now formed the Berry, Vegetable and Fruit Growers' Association of Moneta. The first officers elected are: J. H. West of Gardena, president; H. J. Harris of Moneta, vice-president; R. J. Rodgers of Moneta, secretary; and F. M. Sales of Moneta, treasurer. A committee was appointed by the meeting which elected these officers to visit other berry growing sections, and urge co-operation along the line noted above.

The late apple tree census places the number in the United States at 200,000,000.

The passing of the Oregon Short Line Railway into the hands of the San Pedro and Salt Lake Railway Company, indicates that California will soon have another outlet for its fruit and other products.

To date Riverside has shipped nearly 4600 cars of citrus fruits since November 1, 1902. May was the biggest month with 829 cars. That means two short train loads of oranges per day out of one town of California.

Another lemon curing house to handle lemons under the Teague system is now being constructed at Azusa. The building is 50 by 142, with a separate sweat house. The sides of the building are all open save for wire screening, and inside there are tents arranged to hold a car load of lemons each.

We are in receipt of a letter from the California Promotion Committee, San Francisco, stating that the efforts in the East have been fruitful of good results, and is bringing to the Coast quite a number of persons desirous of securing employment at once in the fruit harvest. The applicants thus far are chiefly stout, able-bodied young men.

Growers and others in need of this class of help can at least in part have their wants supplied from this source by sending their applications to the committee, 25 New Montgomery st., San Francisco.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

THE FARMER AND THE TRUST.

Under this caption the agricultural editor of the San Francisco Chronicle once wrote a chapter in his work on farm economics. Since that writing the editor has studiously held that cooperation as exemplified by the Southern California Fruit Exchange is but another manifestation of the trust idea. And now the editor of the San Francisco paper includes the California Citrus Union in the trust category, much in violation of the Cultivator's ideas of what constitutes a trust. Taking as a text a letter written by a Highland citrus grower, or a commission man anxious to again insert his crooked finger into the pie, the Chronicle reiterates that these co-operative associations are trusts. In order to set this matter clearly before the multitude who read the Cultivator we propose to give a succinct definition of "trust" in its specific meaning. It is an organization for the control of several corporations under one direction, by the device of a transfer by the stockholders in each corporation of at least a majority of the stock, to a central committee, the object being to enable the trustees to elect directors in all the corporations to control and suspend at pleasure the work of any, limit production, and thus to defeat competition.

Now let us examine honestly how the Exchange or the Citrus Union fit into this plain definition of a trust. These two organizations have no relation with each other, save in uniting to maintain a common selling agency known as the California Fruit Agency. This fruit agency is what the Chronicle now denominates a trust. It has no control whatever over the stock of the associations using this selling convenience. The Board of Directors of the agency have no power to elect officers of the associations or interfere whatever in the growing and packing of the fruit they are to sell. They cannot suspend anything at pleasure or limit production or do anything against public policy. The trust holds individual interest as subservient to common authority for the common interests of all; the only subserviency in the agency plan is where the individual grower has turned his fruit over to be marketed at cost or for a stipend clearly agreed upon in advance. The trust, if necessary, limits production and fixes prices; the agency does not and cannot limit the output of citrus products, nor does it fix prices. It may fix the asking price, but the selling price is fixed by the natural laws of supply and demand—of barter and trade in open market, often in auction market. Who ever heard of the Standard Oil Company's offering its goods at auction, or indeed giving its customers anything whatever to say about prices. Again, in commodities handled by a trust the retail price is usually fixed as well as that of the wholesale. And here is a little peculiarity about citrus fruit prices. The retail rates of oranges are more steady than carload rates. When the retailer can buy low his profits are high, sometimes inordinate. When he pays a good price he may approximate his usual percentage of gain by shading up a little . But in any event the eastern consumer is a little the gainer whether carload lots sell high or low. The agency does not try to interfere with the retailers' business and thus we have another difference between the trust and legitimate co-operation.

The moving cause of the uniting of all the citrus fruit interests in one selling agency is the cause of proper distribution and not of stifling competition. The retailer must not have more than the fair profits justified by his risk of final ownership as a dealer, and the only way to prevent his getting more than his share is to distribute the fruit so widely among the markets that the retailer will have to share his margins with the grower and the consumer pay but a fair price. The vital part of the agency plan is the policy of giving everybody a chance to buy citrus fruits and nobody the alternative of doing without because of

congested markets here and emptiness there.

Trusts thrive upon special privileges, the privilege of buying their labor at the trust's price and selling its products at the trust's price. The fruit agency has not special privileges, not even of lower freight rates upon its 15,000 or 20,000 carloads, than the independent shipper has on one. Imagine the great monopolies ever having been able to build up their immense business by choking competition, without the aid of railroad rebates and other unfair advantages over the individual. But this argument could be continued without limit and examples supplied ad infinitum, were it necessary.

Leaving the trust question for the present we refer again to the Highland letter in fairness to the Chronicle speaking of the statement that 500 acres at Highland will unite to build a packing house to sell independently of the agency. The Chronicle says: "These growers have simply been stirred up and fooled by the commission men who want to get their fruit. Nobody can help them." Last week the Cultivator attempted to show these alleged independent growers that their actions were but inviting a rehabitation of the commission system. We do not fear that the hard-headed business fellows who are engaged in citrus fruit production will go very far away from each other, and that those who deliver themselves to the commission merchant will be few and far between. Dante says he saw upon the gates of the Inferno, "He who enters here leaves hope behind." What an appropriate motto for those independent growers who wish to sell in competition against the co-operators and bring back the state of affairs that drove the Exchange and Citrus Union into consolidation of selling agencies.

LETTUCE FOR SILKWORMS.

Editor Cultivator: In your issue of July 3rd appears a brief, but very misleading article conveying the thought that lettuce can be utilized as a food for silk worms. On a business basis it never can. It is a well known fact that in some measure the leaf of the lettuce contains the same elements as that of the mulberry, but there is not the same combination of other elements so essential to the food of the silk worm. There is too little of the fibrous, and too much of the watery substance. This fact renders the leaf unable to resist the influence of the atmosphere for any length of time and so it wilts very soon when taken from the main stem. Even when left on the stem if it be taken from the ground the same is true. To think of turning a brood of silk worms out into a lettuce bed to feed themselves, is a most preposterous idea. Don't try it. The Bambes Moir silk worm is so constituted by nature that it will not prey upon any other insect but almost every other insect will prey upon it. Another peculiarity of its constitution is that either dust of any kind, excessive dampness as mouldy, decaying matter will make it sick, sometimes fatally. Lettuce leaves are therefore not the proper food, as taken from the root they will too soon decay on the trays. If the worms are put out doors to feed on them they would be almost immediately devoured by ants and other insects.

The mulberry tree is made for the silk worm, and the silk worm is most perfectly adapted to the mulberry tree. And still more Southern California is the Eden of one and the Paradise of the other.

This state is destined to be the great silk producing region of the whole earth. If only the people will awake to this great industry we might within the next decade be sending out millions of dollars worth of eggs to all the leading silk growing countries of the world, besides saving to our own bread winners the $45,000,000 that is now sent out for reeled silk to supply our nine hundred silk factories.—Mrs. Carrie Williams, San Diego, Cal.

Ed. Cultivator: What shall I use to rid my hogs of lice?—G. A. M., Burbank.

Apply with sponge weak solution of creoline and water—creoline one part, water 100 parts. This is recommended as one of the very best of remedies.

There is now a telegraph wire encircling the earth.

Coast News and Notes

By R. A. Dague, 1045 Regent St., Alameda

The hog cholera is alarming in the vicinity of Sacramento.

There are now 87,000 Japanese in California and they are still pouring in.

A new and large fruit packing house is nearly completed at Red Bluff.

The banner sale of a carload of California cherries this year in Boston was for $3726.

For some time San Leandro shipped two car loads of cherries daily to San Francisco.

Napa county seems to be very prosperous this year. Both the fruit and grain crops are good.

Fourth of July firecrackers caused a fire in Wheatland that destroyed property to the amount of $250,000.

The Pacific cable is now finished, connecting San Francisco with Honolulu and the Philippine islands.

It is estimated that the late high winds damaged the hop crop of Yolo, Sacramento and Yuba counties to the amount of $100,000.

The Haywards cannery has so far canned 25,000 cases of cherries, the varieties being mainly Black Tartarians and Royal Annes.

The dropping of oranges along the Tule river and in the vicinity of Visalia causes considerable anxiety on the part of fruit growers.

The canneries of Dixon have been running for some time with a large force and have turned out a large amount of canned goods.

On July 11th the Earl Fruit Company shipped from Sacramento to London eight car loads of assorted fruits, mainly plums, prunes and Bartlett pears.

Cutting and drying of apricots and peaches is in full blast at Bakersfield. Notwithstanding early discouraging reports the fruit is good and the yield heavy.

Fruit in the Sacramento valley is ripening rapidly. Three steamers make daily trips carrying the fruit to San Francisco. They each handle about 95 tons daily.

Careful estimates have been made of the apricot crop of La Habra valley. It is placed at 125 tons, which is larger than any former crop. The fruit will be dried.

At the weekly produce sale at Santa Rosa last week 55 cases of eggs were offered. The owners were offered 20 2-3 cents but they were held for a higher price.

The premium list of the coming state fair has not yet been published, but it is definitely stated that the committee has decided to offer $1000 in premiums for the best county exhibit.

One rancher at Visalia has 390 orange trees of the Valencia kind. Last year they yielded 2121 boxes of fruit. Adjoining him is another orchard of 1100 trees that yielded 5000 boxes.

It is now given out that careful estimates of the wheat crop in the Northwest are: Washington, 20,500,000 bushels; Oregon, 11,500,000; Idaho, 4,000,000; total of the three states, 36,000,000.

The wine grape business in the vicinity of Lodi will receive a big impetus from the fact that a large winery plant is being erected by Geo. West & Son at that place. It is in process of construction.

A restraining order has been applied for in Judge Morrow's court by U. S. Attorney Banning to prevent the owners of 200,000 sheep from pasturing their stock on forest reserve land in Stanislaus county.

It has been decided by the Southern Pacific railway to cut a tunnel through the San Luis Obispo mountains. When it is finished two hours will be saved on the Coast Line between Los Angeles and San Francisco.

The Sutter almond growers have held a large mass meeting and formed an Almond Growers' Association. The officers are B. F. Walton, president; L. H. Woodworth, vice-president; and H. C. Clark, secretary. Their next meeting will be on July 20th. They propose to receive sealed bids for their joint crop.

It is now stated that in many instances typhoid fever is caused by the use of impure milk. The Board of Health has sworn out thirteen warrants against San Francisco milk men and proprietors of restaurants.

Up to July 7th there had been shipped to eastern markets 1100 car loads of fruit from Sacramento. The fruit was mainly peaches, apricots, plums and pears. This is 300 carloads more fruit than shipped last year at the same date.

The following special report has been received from Smyrna as to the raisin crop there: Prospects for 1903: Sultana raisins, 39,000 tons; black raisins, 18,000 tons; red raisins, 11,000 tons. Crop of 1902: Sultana raisins, 33,000 tons; black raisins, 15,500 tons; red raisins, 10,000 tons.

Some time ago J. B. Haggin of the Sacramento breeding farm, sold three horses. They went east and at the late races at Sheepshead Bay won a sack of money. Mr. Haggin received as breeder $900, and the owner of the three-year-olds took down $18,435. The California race horses are becoming famous.

Since the boycott against the Growers' Co-operative Agency at Wheatland the commission houses of San Francisco have sent their fruit buyers into that section and the locality is filled by them. All crops look fairly well there except Bartlett pears. The late strong winds knocked off half of that crop.

The Horticultural Commission of Lassen county says the San Jose scale was so bad in that county has been almost eradicated by the use of a solution of salt, sulphur and lime; that wooly aphis is easily destroyed by uncovering the roots of the trees early in the spring and sprinkling them with pulverized bluestone.

The berry business in the Pajaro valley still continues to make a fine showing. The day previous to this writing the shipments were: Vega, 665 chests of all varieties of berries; Watsonville, 229 chests of strawberries and 119 chests of Logan berries; Aromas, 320 chests of all varieties; Pajaro, 125 chests of all kinds.

Professors A. J. Turner, representing the United States, and J. N. Leconte, of the State University, representing California, have commenced to investigate the irrigation proposition in this state. It now looks like the reclamation of arid California lands is to be seriously undertaken by Uncle Sam and California, acting jointly.

The fruit growers of the Campbell district, Santa Clara county, held a called meeting a few days ago to discuss the late decline in the price of apricots. After a thorough canvass of the situation they decided that $45 per ton would be a fair price. The crop in this district is not a large one, but the fruit is of good quality.

One and two years ago large consignments of almonds were shipped from Chico to Portland, Oregon. The Portland house that handled them have sent their agent to Chico to buy this year's crop, saying they were the best they ever saw. Mr. Bane, living near Chico, estimates his crop of almonds this year at fifteen tons.

The Porter Brothers Company expects to resume business soon. The company owes in this state $646,000 and claims to have assets of $675,000. The following banks are among the creditors of the firm: American National, $50,000; San Francisco National, $150,000; London, Paris and San Francisco, $50,000; Anglo-Californian, $100,000; Wells-Fargo & Co., $100,000; Farmers' National of Fresno, $40,000.

The failure of Eppinger Brothers demoralized the grain market in Central California. Not more than one-tenth of the usual business is being done. Grain, instead of being shipped to the warehouses at tidewater, is being stored at interior points. The bankers are trying to re-organizze the business on a sound basis, hoping to revive the business.

The American Fish Company are catching a great many salmon in the Sacramento river. The catch is all sold in Germany. Last year the shipments of salmon to that country aggregated 8000 tierces of 700 pounds each. Salmon are very plentiful this year both in the Sacramento river and Monterey bay. Two hundred boats are busy catching salmon in the latter waters.

Michigan this year leads California in sugar manufacture. For thirty years California led all others. Professor G. W. Shaw, of the University, says the reason why we have fallen behind is the farmers did not irrigate their beets, fearing the effect of water on the quality of the beet, although irrigation of the beet was successful in Utah and Colorado. "It has been proven," he says, "that while the percentage of sugar is lowered by irrigation, the crop was increased 50 per cent."

For some time the United States Department of Agriculture has been experimenting in various sections of California in raising Gluten wheat. These experiments have been successful, so much so that the Agricultural Department of the State University will experiment on a large scale. The plan is to experiment on the co-operative plan—that is, to take pretty large tracts in different part of the state and try to grow the wheat in large quantities. This is for the purpose of inducing the ranchers all over California to plant Gluten wheat only.

Any one that is interested in the Smyrna Fig business should know what variety of Capri to plant. Now is the time to determine. Send 25c to cover packing and postage to W. Herbert Samson, Corning, Cal., proprietor of Maywood Colony Nursery, and he will send you by mail four of the Capri Figs of different varieties, containing the Blastophaga. The figs contain three to eight hundred insects.

Persons wanting larger quantities can obtain the figs for $5 per 100. Mr. Samson has made a study of this business for the past three years, and has proven that he has the best variety of Capri fig in the state.

ECHO GLEN JERSEY HERD

Is sold, except a few for family use; and Echo Glen Place is platted out for sale. A suitable place and manager is greatly desired to establish another herd. Those having for sale desirable land, easy of access, not large place, with or without improvements, should write. A man with or without a ranch who knows how to keep fine stock will please write, A. B. WHITE, 2547 W. Twelfth St., Los Angeles.

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G. F. CROMER, Secy.
207 Currier Bldg. Los Angeles, Cal.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS (CONTINUED).

We have become quite familiar with the great branch of Phylum Arthropoda—jointed animals with jointed legs. We have taken a glance at the lowest class, Crustacea with its great crabs and lobsters and the familiar sow-bugs; we have studied somewhat the Myriapoda with its centipeds and millipeds; we have also taken a brief survey of the great spider class—Arachnida. These are the eight-legged animals and included the wee mites with their big brothers, the ticks, the forbidding scorpion, and lastly the spider order. None of these are insects, so as yet we have not had anything to say of entomology. Among these that we have already discussed only a few are pests. The sow-bug sometimes eats seeds and so vexes the gardner. The millipeds sometimes eat plants, though as yet have never been a serious enemy of the orchardist or gardner in this country. The mites are the only serious pests in all these three classes and these as we have seen, trouble not only the fruit grower and gardner, but are often a serious pest in the poultry yard and even vex not a little the higher animals, not excepting man himself. The ticks, which as we have seen are colossal mites not only vex the domestic animals, but as we have seen, are purveyors of the dreaded Texas fever, which so often spread mortality among cattle to an alarming extent.

* * *

INSECTS. We now come to entomology proper. The insect class is also well named Hexapoda, as all insects when mature have six legs. The insects are also peculiar in having three well marked portions if the body, head, thorax and abdomen. They always have antennae, though sometimes these organs are very short and obscure. When mature they always have large compound eyes. Many also have in addition simple eyes, one, two and three in number. Insects also go through quite marked transformations. True, we have seen that the mites go through transformations in that when they hatch they have only six legs but after the first moult they have eight. The Myriapods also pass through somewhat similar transformations, while some of the Crustacea change not a little when they reach maturity. The crab looks at first much like a shrimp; it later resembles more the lobster, and finally the abdomen becomes abbreviated and we have the mature form—the crab.

In insects, however, we have the metamorphoses much more emphasized. When the insect first hatches it is quite different, usually from the mature form.

In some insects we say the transformation are complete, in which case the young, just from the eggs look much like mature form, though they are entirely wingless. In this stage they are known as larvae. Later, they have stubs of wings, or short wings, which as yet are functionally usless. They still look like the last stage, known as the Imavae. We now call them pupae. In the last stage, known as the Imago, they have their fully developed wings, and their reproductive organs are now for the first time fully developed. These are well named insects with incomplete metamorphoses, for in all cases they would be recognized as belonging to each other or as the same insect. In all these, both larvae and pupae are also known as nymphs. Insects with incomplete transformations have like habits from first to last, that is, they all take food and feed upon the same kind of material. Bugs, locusts and dragon flies are good illustrations of insects of incomplete transformations.

Insects with complete transformations are quite different from the above. Here the forms of the larvae, pupae and imago are quite different. The larvae are usually worm-like, or cylindrical and are familiar to us all in grubs, maggots and caterpillars. I say they are worm-like; this accounts for the fact that they are usually called worms as I have alreary seen, worms as we have already seen, ferent branch of animals, never have two legs, and never nave really true breathing organs. We see, then, that it is never proper to use the word worms in discussing insects in any of their stages. True, in common parlance we speak of army worm, cut worm, etc., but as these are no worms at all, but rather the larvae of insects, the word is quite wrongly used. The larvae of this group of insects may or may not have legs. The larvae of beetles usually have six legs and are called grubs, though in some cases they are footless, or apodus, as we call them, the word meaning without feet; this is true of all the larvae of weevils, or snout beetles. Fuller's rose bettle, so troublesome in our orange orchards, is a good example of this last. The larvae of all Diptera, or two-winged fly, are also like the weevils in being footless. We call these maggots. The larvae of moths and butterflies are usually known as caterpillars. The most of them have sixteen legs, though the loopers or measuring worms usually have only ten legs. A few, however, have twelve or fourteen: Some of the noctuid moths—the pre-eminently night-flying moths—as caterpillars, have twelve or fourteen legs at first, and after one or more moultings may have the usual sixteen. It is interesting to note that these various larvae may be thickly covered with hairs, which are often long and thread-like, or may be heavy or spinous. These are evidently for protection. The bird likes not the hairs and so lets the caterpillar severely alone. Often these caterpillars have a very unsavory odor and presumably have an equally forbidding taste. These do not need the hairs, for they are protected in their ill-flavor, and so are left unmolested by birds or other insect feeding animals. Insects that are in the ground most of the time, as larvae are usually without either of the above characteristics, as they are protected in their underground home. It is needless to say that caterpillars are voracious feeders and their gormandizing habit acounts for their rapid growth. Growth and food-taking here is largely, often entirely, confined to the larvae. Most of these larvae have good jaws and so eat up leaf of plant or other insect, as the case may be. The maggots have very different mouth organs. They have a sort of a hook which they can draw back and forth and thus wound the plant or animal creature on which they feed, after which they can suck or absorb the juice. The larvae of the highest order of insects which includes the bees, wasps, ants, etc., are for the most part cared for by their parents. Some of these have almost no mouth organs at all, and are, like the larvae of bees, bathed in a liquid food which they can absorb throughout their entire bodies.

The second stage of this group of insect, those with complete transformations, is called pupa.

Here the insect is almost entirely quiet and takes no food. It it is to become a butterfly we call it a chrysalis. These pupa are often included in a cocoon. The cocoon may be of silk, as with many moths, may be earthen, as in case of cut worms, caterpillars, or may be of sawdust, as in case of the borers. This cocoon simply serves as a protection and is formed by the larvae just before it becomes a pupa. The form of the pupa is quite different from either that of the larvae or imago. The word means trussed or bandaged and is not inappropriate, as the pupa is really quite like the imago with its legs and wings and mouth organs wrapped about with a membrane which holds them close to the body. This pupa, then is an intermediate stage between larva and imago. The wings and legs of the imago are present, but are bound close to the body and so are useless.

The imago is a full formed adult insect. It has the six good legs for walking, usually wings for flight, and now has fully developed reproductive organs. The larvae usually live a few days or possibly weeks, or, is case they pass the winter as larvae, for a few months. The imagos usually live but a few days, though they may pass the winter as imago and in a few cases like bees and wasps, the mother may live for years. While most insects do all their feeding while larvae, a few, like some of the beetles, feed ravenously while imago. The potato beetle is a good illustration of this. Insects generally pass the winter either as egg or pupa, though a few pass the winter as larvae. Quite a large number of insects live as imago through the cold months of the year.

We remarked above that the insects are composed of head, thorax and abdomen. The head bears the eyes, antennae, and mouth organs. Within the head, of course, is the brain, which in case of bees and ants is quite large and even marked with convolutions. The thorax is the second part of the body and bears the legs and wings. It is made up of three rings, one for each pair of legs. The wings, in case there are but two, are borne by the middle ring, while if there are four, they are attached to the middle and hinder ring. Within the thorax is little but muscle, as the great muscles that move the legs and wings are in this part of the body. Of course, the aesophagus passes through the thorax and on the under side are usually two large nerve masses. The third part of the body is known as the abdomen. This, of course, is important in containing the important internal organs, as most of the digestive tract, the reproductive organs, etc.

(To be continued.)

* * *

WHEN TO BUD.

Subscriber from Covina asks if it would be advisable to bud oranges and lemons as late in the season as July. He has trees he wishes to bud, desires to put it on it it would be better to do so. It is not common to bud citrus trees as late in the season as this. Early in the spring while the sap is moving freely and the growth of tissue rapid just beneath the bark, the bark will loosen easily from the wood, and at that time budding is more apt to be successful. I think if I wished to bud my trees and had not already done as I should think it wiser to wait until next year. Early budding gives a good growth before fall. I hope some of the budders will give their experience, as I have had several inquiries in regard to the matter.

* * *

LEGISLATION.

The subject of legislation will come up at the seaside institute at Long Beach. One of the topics that will be considered will be the present law protecting the dove. Many think it would be wise to limit the season for shooting to two months, while others think they should be exempt entirely from the ravages of the sportsman. There can be no question but that the dove does a great deal of good. It is true that they live largely upon grain and seeds and will take the cereal to some extent, but his food for most part and for a large part of the year consists almost wholly of weed seeds. Seven thousand of these have been taken from the stomach of a single bird at one time. This shows how valuable they are in aiding us to protect against these ugly and disturbing blots upon the landscape. My own opinion is that these are very valuable birds and that they are in danger of extermination. I am quite of the opinion that it would be the part of wisdom to pass a law making it an offense to kill these birds at any time of the year.

GOOD ROADS.

I doubt if any part of California has made more rapid strides in the way of road improving in proportion to the population than we have at Claremont. We raise by way of private subscription about one thousand dollars per year which is duplicated by the supervisors. As a result our roads are fast becoming a delight to all who have occasion to use them. I have never yet heard anybody regret money appropriated for this purpose. It not only adds greatly to our comfort but certainly raises the value of our ranches not a little. This subject of roads and road legislation will certainly come before the seaside institute. It is to be hoped that suggestions as to needed legislation and general improvements of our roads and road-making will come up for consideration. There is certainly one thing that needs attention, perhaps as much as anything in California, and that is the looks of our highways. The great show of weeds along all our roadsides is a disfigurement which good taste cannot and should not allow to continue. Besides, those weeds are a menace to those places that are kept in good order as the seeds from the weeds are widely distributed and so it makes it much more difficult to keep our places tidy and in good order. The matter of roadside tree planting is also one of great importance. How grateful and beautiful too is the shade from peppers and eucalyptus which frequently greets us on these hot days as we are driving through the country. True, it is difficult with so many vacant places to secure success in this roadside tree planting. However the pepper will live and do fairly well if we see to it the first year, and secure a good growth. I know of peppers that have not received any attention from the first year of planting, and they have done very well. The same is true of the Eucalypti. If we give them attention until they get well rooted they will then grow on and not only give shade and beauty, but will add greatly to the value of our ranches. Can we not afford to give attention to this matter and secure the one thing needed to make our California landscape unsurpassed anywhere in the world? In planning for roadside tree planting, there are three or four trees that may well be considerd. Eucalyptus viminalis, E. sideroxylon, E. rostrata, or even E. globulous, will all do well and give satisfaction. Acacia melanoxylon and Sterculia diversicolia, are exceedingly beautiful and very desirable for planting along our highways. This matter cannot be too frequently or too urgently pressed upon the attention of our people.

* * *

DRAINING FOR ALKALI.

M. W. Messenger, Phoenix, Ariz., is interested in the subject of alkali, as mentioned in the Cultivator of July 3rd. He wishes to know just what I mean by good underdrainage in connection with ample irrigation to overcome the evil of alkali in the soil. The principle involved is this: All the water that we add to the soil dissolves a little of the alkali. If this filters through the soil and runs of, it carries the alkali away and so cleanses the soil. If, on the other hand, the water evaporates, it collects and brings the alkali to the surface, just where it is most harmful. What we wish then, to do, is to secure such a condition that the water will run down and pass off, carrying with it the alkali. If there is free drainage, the more water the better. If, on the other hand, there is not free drainage, any surplus water is very mischievous. We must remember that our alkali soils are alkaline because there has not been free drainage. Of course, this free drainage could be secured by use of drain tile, but this is very expensive. In some parts of Orange county, great benefit has come from open ditches, giving a chance for the water to pass off. Mr. Hazzard, of Westminster, has reclaim some very strong alkali land in this way.

* * *

FOUL AND BLACK BROOD.

A very interesting bulletin has been issued by the department of agriculture of New York, giving researches by Dr. V. A. Moore, the same excellent authority that is to be with us at Long Beach. Dr. Moore has reared in culture tubes the Bacilli of both black

and foul brood. He decides that they are the same, only modified by circumstance. I think some of our best practical men have come to the same conclusion. I find that even undoubted foul brood varies not a little. The odor and the nature of the putrescent matter is quite different at times. Even the difference of black brood is only a little more marked.

* * *

DISTILLATE SPRAY FOR RED SCALE.

Horticultural Commissioner Geo. R. Holbrook wishes to know if distillate spray will kill red scale. A few trees in his district are infested and are too large for fumigation with any tents at command. He asks if distillate spray will surely effect to kill these pests.

The red and purple scales are of the armored group. Here the scale is not the insect, but a protection. It aids to shield the insect which is under it, and so these armored scales are rather difficult to kill. Again, though the purple scale lays eggs, the red scale never does. In this case the scale are born alive. Thus in case of red scale there are always old and young. This is why the red scale are the most to be dreaded of any of our scale pests. They are always, of all ages, armored. With either distillate spray or fumigation it is very hard to kill the old scale. Thus it is usually necessary to spray or fumigate twice to do effective work. I think spraying twice with a two per cent distillate spray at an interval of five or six weeks can be counted on to kill all red scale. As distillate spray can be used three times at no greater expense than attends one fumigation, we see that in distillate spray we have what Mr. Allen says is one of the greatest boons that has come to our citrus orchardists. Let all remember that our orchards should only be sprayed or fumigated when in full vigor. So we should irrigate and cultivate well before we treat the tree for scale.

California Horticulturally...

John Isaac, Sacramento

TO INVESTIGATE THE WORK OF PARASITES.

Alexander Craw, Deputy Horticultural Commissioner, will visit the Southern counties during the present week, for the purpose of meeting with the different county horticultural commissioners and considering the best methods of protecting this section from pests with the introduction of which it may be threatened. Within the past three years Mr. Craw has distributed over the southern counties a great many colonies of beneficial insects, and during his visit he will visit the different sections in which these have been established with a view to ascertaining to what extent they have taken hold and spread, and, further, of deciding to what extent they may be relied upon in the future for overcoming the pest they have been introduced to work upon. From reports received by him, it would seem that the Scutellista cyanea—the South African fly imported for the black scale—is doing good work in some parts, although reports are not so favorable in others. The red scale, which has been so severe a pest to our orange growers for years is also reported as decreasing in some parts under the influence of a little golden chalcid fly which is fast increasing. Mr. Craw's investigations during this month will prove what the parasites are doing, what is to be hoped for from them and his report will be anxiously looked for.

* * *

HONESTY IN FRUIT PACKING.

While policy may not be a very high plane upon which to base honesty, the old adage about honesty being the best policy is nevertheless a true one. This is especially the case in the handling of any form of food products and yet it is one which we cannot realize the importance of sufficiently to punish violators of it. As the Senate committee, appointed to investigate into the adulteration of foods, put it in their report: "Counterfeit goods which are traded for honest dollars should be placed under the same ban as counterfeit dollars traded for honest goods." California fruit is a great sufferer from this species of dishonesty, and there is little question that our markets could be very widely extended if the purchaser of our canned and dried fruit was sure he was getting for his money what he paid for, and even in the case of fresh fruits, that the whole box was equal to the layer exposed to his view. The truth of this was brought forcibly to mind in conversation with a leading fruit grower who has just returned from Europe. While in France he met a prominent grower who was condemning California canned fruits as being utterly worthless and unsalable, and he became very excited in his denunciation of our goods. To establish the justice of his indignation he took from his shelves a can labeled as Superior California fruit and opened it, turning out its contents for our California friend's inspection, "and," to use the gentleman's own words, "it was a lot of slush, fit for nothing but hog feed." While such packing is possible and while such stuff is put upon the market the fruit industry of California, and especially the honest packer, will suffer. It is true that the packers of such stuff are very careful that their names do not appear in connection with it, and it is put up under some gaudy title, with an attractive label as first class California fruit. It would not be possible for the unfortunate purchaser to discover who packed it, and as California fruit it is condemned, together with all California fruit of which it is assumed, by those who are not otherwise informed, to be a fair representation. To widen our markets, we must sell honest fruit and, to do this, there should be some way to prevent dishonest packers from trading on California's good reputation and trailing it in the mire.

* * *

DAMAGING WIND.

Unusual and very severe north winds, the first of the month, have materially changed the fruit prospects in the lower Sacramento valley. The damage has certainly been very heavy. Ripe and half ripe fruit was blown from the trees in large quantities, and farmers estimate their loss from one-third to one-half the crop. Along the Sacramento River, Bartlett pears have suffered severely, the damage not being confined to the fruit blown from the trees, but extending to that which remains, which has been badly bruised. How extensive this damage is will not be known until the fruit is ripened. In the wheat fields, ripened grain has been badly whipped out, while the hop yards have also suffered and many acres of poled hops have been leveled. Altogether it has been one of the most disastrous wind storms this section has ever experienced.

* * *

MANUFACTURING MARASCHINO CHERRIES.

Every passing year sees some new fruit product added to California's exports, and her markets gradually widening. It is quite recently that we have become shippers of Smyrna figs, but already the industry has become established on a commercial basis. Now one of the large preserving firms of San Francisco is putting up for the first time Maraschino cherries in large quantities. This is a very fine quality of preserves which have heretofore been imported from France and Italy. The firm which is making a specialty of this fruit imported an expert from France to take charge of the work, and contracted for the finest cherries they could procure in Alameda county. Wm. Barry, of Niles, furnished six tons for which he received $110 per ton. These were all Queen Anns, and had to be picked with the greatest care and to be perfectly ripe. Mr. Barry picked his trees four times, selecting each time only the perfect fruit. The preserved cherries are put up in clear glass bottles, with handsome labels, and present a very attractive appearance. A market for them is found in all the large Eastern cities, where they are extensively used in bar rooms in the manufacture of fancy drinks.

Yolo County is to have another big irrigating system. The Yolo-Solano Irrigating Company has been organized with the capital stock of $5,000,000. The first directors are: Willard M. Shelden and C. M. Wooster of San Francisco and Messrs. H. S. Joslyn, Edward Huston, W. P. Craig, J. I. McConnell and F. A. Porter of Woodland.

CAMPING PRIVILEGES AT SEASIDE INSTITUTE.

A letter from D. L. Davenport of the committee on camping place informs us that Mr. Bixby has granted free camping privileges to attendants at the Seaside Institute. The plot donated is on the ocean front just off the electric line near Alamitos. Tenting privileges and water both free.

The sessions will begin Monday, the 27th, and all should be on hand for the first session.

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By J. W. Mills, Ontario, Cal.

DISEASES OF DECIDUOUS NURSERY STOCK.

While we are having root knot, and growers in the East have the yellows and other things with their peach trees, the nurserymen of England have a new disease that seems to be fully as destructive. It shows on peach, plum and apple trees. It is a fungus disease known as Eutypella prunastri, and in some instances has destroyed more than 50 per cent of the trees. This disease is easily detected by those acquainted with it, the stem being the first attacked, showing a slight brownish color of the bark, which becomes dry and hard and sticks tight to the wood. There is no other outward indication during the first year, as a rule. The part of the fungus that corresponds to the roots of other plants, however, keeps at work and peneterates to the inner bark and young wood. This kills the sap wood, which shuts off the circulation and the top of the trees starve to death or dry up. Young trees might be planted by a person not acquainted with the disease and when the trees would not start to grow in the spring of the following year, the trouble might be laid to drouth or root disease. In the second year of the disease there are numerous small cracks running crosswise with the stem in the dead bark beneath the surface. There being no fractures of the bark, the casual observer would not suspect the cause of the disease. Within the minute cracks are clusters of dark spores. If the stem is broken at such places the disease is sure to be spread from those spores.

The fungus attacks many plants allied to the apple and is often found on wild plants. The chief mode of infection is through the ends of cut twigs. It is supposed that the spores are introduced into wild plants by punctures made by insects and other things. The spores mature from February to April and it is recommended that all pruning be done before that time.

* * *

GUM DISEASE.

A faint light has been thrown on the cause of gum disease of stone fruits. A German experimentor has discovered that Claster osporum, a species of fungus, is intimately connected with the gum disease of stone fruits and in all cases of experiments in inoculation, the conclusion was drawn that the gumming was caused by this fungus. It has always been surmised by scientific men in horticulture that gumming was caused by some form of disease that is traceable to a germ, but there has been no proof of it. It was not many years ago that "curl leaf" was a mysterious disease, but it is now well understood and is successfully combated. This is, however, a trifling malady compared with some forms of gum disease and root knot. It is simply the difference between losing a crop of leaves and fruit through neglect, and losing part of the root system or the whole tree.

* * *

TWO NEW RASPBERRY DISEASES

The New York station has issued a bulletin on two new diseases of the raspberry that may in time affect California growers. It is at least well to be on the outlook for them.

One is known as the "cane blight" of the raspbery and is most noticeable during the ripening season. It often kills the tops of the canes just as the berries are ripening. The fruit and leaves will wilt and dry up in a few days. The disease comes from the attacks of a fungus that grows under the bark, causing it to turn brown and die. Only a part of the stem may be affected, in which case it may be confined to a strip on one side or it may be completely girdled, killing the part above and leaving that below the girdle healthy and vigorous. A cane may be apparently healthy, with a vigorous top, but partly girdled, when the disease will quickly girdle the stem, when it dies suddenly. This is generally the case with the Cuthbert. It has gained the reputation of "running out" in some sections when the cause has been traced directly to this disease. The Columbian is said to be almost totally resistant to the disease and is taking the place of Cuthbert in some sections as a red canning variety.

The spores that cause the trouble form in black patches on the bark where the cane dies. The disease is spread in a number of ways. Split crotches, dead stubs left by pruning, rubbing of cross branches and punctures made by insects make places for the disease to enter. It is supposed that the spores are scattered by nursery stock, winds, hard rains, birds and insects, pickers when gathering the fruit, cutting out old canes and allowing old pruning to lie around, as these are prolific sources of the disease, it being known that the fungus grows on dead and rotting wood.

One season's spraying with Bordeaux mixture did not seem to have any effect on it. Three summer sprayings did not make any diminution in the amount of disease over part of the patch not sprayed. The best method of securing clean plantations of raspberries is to plant on ground that has not been put to that use for a few years, and securing plants from nurserymen who can guarantee them to be free from disease.

Raspberry Yellows is a disease that affects that fruit in much the same way that peach trees are affected with "yellows." There is no known cause or remedy for it. The disease soon renders the plants worthless. Fertilizers do not seem to help the plants any. California growers cannot be too careful in importing berry plants from the East and we hope this information given by the New York station will prove of benefit to us.

* * *

DROPPING OF GRAPES.

The so-called disease of grapes known as coulure is little understood, some varieties being very subject to it in one location and in another not far removed, it does very little damage. This is particularly true of Muscat in the southern part of the state.

It has been fully demonstrated that certain varieties of plums and almonds, besides numerous other fruits, need cross pollination in order to secure good crops. There are numerous reasons why a large number of blossoms fall without producing fruit. Aside from weather conditions, the two chief reasons are perhaps due to improper pollination and imperfect organs of the flowers. Recent investigations have shown that grapes are often possessed of infertile pollen and cannot fertilize their own flowers and as a consequence drop a large part of their fruit. Going entirely on theory it may be that if Muscats which do not produce good bunches of grapes had some variety near them which produced an abundance of fertile pollen, this trouble would be largely overcome.

It has been found that fertile and non-fertile pollen of grapes can be readily distinguished by the aid of the microscope. Fertile pollen grains are covered with a sticky substance and stick together in lumps, while the nonfetrile sorts are dry and arrange themselves on glass just as a handful of wheat would if thrown on the floor. Besides this feature, there is a difference in the shape of the pollen grains of the self sterile and self-fertile sorts. These peculiarities obviate the necssity of long and expensive field experiments in determining which varieties are self-fertile or otherwise. We can see where much time and labor can be saved even with a small number of vines in the home vineyard. For instance, in localities where the Muscat will not set a crop of grapes, pollen could be sent to some person who has a microscope, and if the pollen grapes did not prove to be self-fertile, it would be easy to determine if some other variety does produce pollen that is self-fertile in the same locality. It often happens that the pollen from some varieties has no affinity for the pistils of others and of course will not fertilize the grapes. This condition can only be determined by experimenting.

It has been determined that girdling the canes which bear the clusters tends to make the vines more productive. This might do for a few backyard vines but would hardly be practical in a large vineyard. Bending the canes has the same influence, only to a less extent and is the more practical of the two methods.

Muscats are always pruned short in commercial vineyards, but there is no reason for doing so when grown in the back yard for home use; better train them over an arbor or on the fence or on wires. If they drop their grapes then, try making sharp bends in the canes when training after pruning.

It is also noticed that the largest percentage of grapes set on individual bunches during the height of the blooming period while at each end of the blosoming time, the fewest number of grapes set. This would suggest to us that varieties that come into full bloom at the beginning and at the end of the blooming periods of self-sterile varieties, should be selected so as to have an abundance of bloom during the blossoming period of the latter. There are a great many things to learn in grape culture that most of us do not dream of now; it is only by careful thought and investigation that these difficulties are unraveled.

* * *

SWEATING APPLES.

It has been determined by careful experiments that apples which are to be used for cider making can be much improved by sweating them. This can be done by keeping them in a tight compartment. It was found that when sweated for 23 days, they reached their highest quality and at the end of 49 days, they had degenerated to a considerable extent. The cider made from apples which had been treated in this manner was much superior to that made from apples that were taken directly from the trees and ground up. The experimenter does not state if the extra trouble and expense of sweating was compensated for by the extra price obtained for the article. This is a point to be settled before the process can be recommended.

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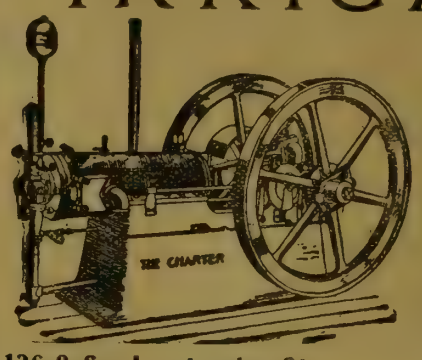

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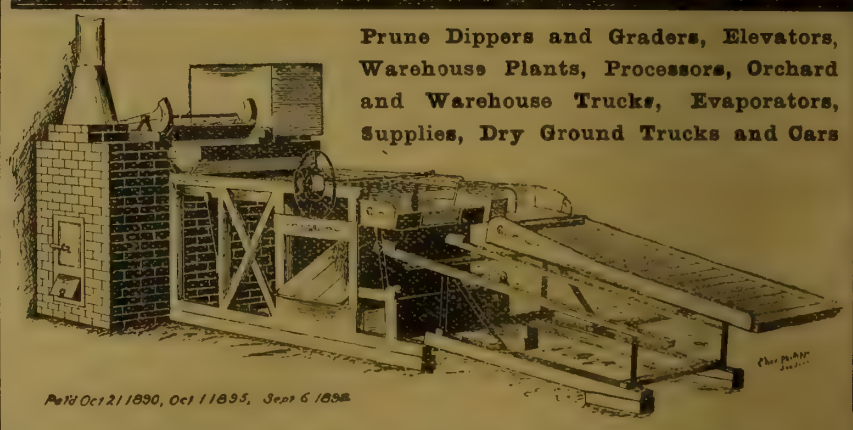

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE CAL.

CALIFORNIAN ASTERS.

Our state contains about twenty species of wild aster, though in the United States there are some two hundred species out of a total of three hundred for the whole world. Our climate in general is rather warm, for as a rule, asters prefer cooler and damper climes, yet strange to say, our handsomest species grows upon the desert sides in rocky soil.

Another very handsome species, known as Anderson's Aster, grows in the Sierras northward and is but sparingly found in Southern California, though we are not without a few showy species in any portion of the state. Locally, our finest species is quite rare, being restricted to the Arroyo Seco north of Los Angeles. So few in numbers is it that until lately it has escaped the eye of the botanical explorer, being recorded in science only last year as Aster Greatai, after the discoverer. Mr. L. A. Greata, of Los Angeles. We have two others in this section that are worthy of garden culture and both grow in the low meadows toward the coast. These are A. hesperius or Western Aster, and A. Menziesii or Menzies' Aster.

Though asters probably are found in every county in the state, another flower closely allied, is often taken for them, for some of the species have flowers as large and showy as many of our asters; these are the Erigerous and the showiest, E. Philadelphicus is to be found not only east and west in this country but in Europe and other countries as well.

Most of our native asters are perennials and if one does not wish to wait to grow them from seeds they can be marked and a clump of them taken up later. Most of the species are in bloom at the present writing.

* * *

BOUGAINVILLEA AND SOLANIUM

Two subscribers, one from Southern the other from Central California, write for information concerning the propagation of the above plants.

Regarding the latter, S. Wenlandii is no doubt the one in question. We have many Solanums in cultivation (aside from the common tomato), but this one is the showiest and its truly magnificent cymes of lilac blue flowers are much in evidence just at present.

This Solanum is quite easily grown from cuttings taken from the last ripened lateral growths and will root from one month after flowering until late spring, say September to April. Take these cuttings about the size of a lead pencil, insert in pure sand, keep wet but not flooded and you will find success attend you efforts.

But the Bougainvillea, well, I guess not. No plant in general demand has so baffled our local propagators as this beautiful and innocent-looking vine. The common magenta-colored one (B. glabra) is hard enough but its brick-red variety (lateritia), the most desirable of all, is even harder to root.

Before recounting his own successes and failures (principally the latter), the writer thought he would look up the two best authorities in his library, so took down "The Florist's Manual," by Wm. Scott, one of the best known men of the craft and the man who had charge of the Floricultural Department at the Pan-American at Buffalo; next to it was, "Plant Culture," by Geo. W. Oliver, Propagator-in-chief to the United States Government. The former says: "Cuttings made from the young growths strike freely in sand in February or March." The other says: "Propagated freely from cuttings of the ripe wood." "When doctors disagree, who shall decide?" The writer has never seen any propagated from other than the ripened wood and the process is very slow.

The best way is to take cuttings four to six inches long, put in a deep box of pure sand and keep moist at all times but not too wet. They may root in a few weeks or they may take eight months to accomplish it. With wood so slow in callusing, the drainage must be perfect, the wood ripe, the cut made smoothly with a very sharp knife, and a hole made for the cutting, firmly pressing the soil close around each one. If one has an old vine of Bougainvillea they should propagate it by layers, but in any event it will be found cheaper to buy your plants of a nurseryman.

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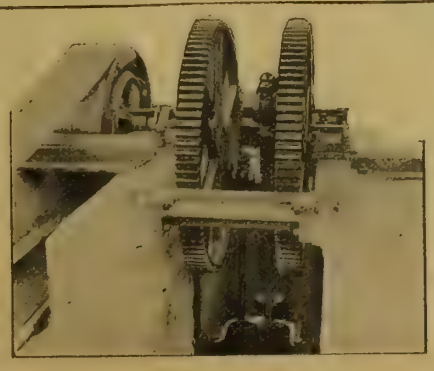

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C. H. SESSIONS, ASSOCIATE EDITOR

ESSENTIALS OF SILO BUILDING.

Continued from first page)

essentials of silo building may be of value.

The Cultivator gave quite extended instructions for building silo in its issue of April 6, 1900, also in July 11, 1902. We now add some notes taken from the Orange Judd Farmer which may be of interest.

THE ESSENTIALS.

The essentials in constructing a silo are these: The building must be perfectly air-tight; the walls must be strong enough so that they will not spring or crack from the pressure on the inside, and the silo should be of sufficient depth in order that the feed placed in it will pack tight enough to exclude the air.

Another important point gained in a deep silo is that for the size of the building it will hold more feed than a shallow one, as the pressure will cause it to pack much more closely. This heavy pressure will also help exclude the air and thus help preserve the silage. A silo should not be less than twenty-five feet deep to be most effective.

SIZE OF SILO.

In planning the dimensions of a silo one of the best rules to go by is to have the diameter in proportion to the number of animals to be fed, and the depth in proportion to the feeding season. As the silo is opened at the top, and the entire upper surface gone over every two or three days, in order to prevent it from spoiling, it will readily be seen that if the surface is too large one would either be obliged to feed more to the stock each day than is necessary, or constantly be feeding silage that is more or less damaged.

A silo for a herd of twenty head of milk cows and twenty head of young stock, for a feeding period of 200 days, should be sixteen feet in diameter and twenty-eight or thirty feet deep. Where one is intending to feed silage the entire year it is usually best to up a second small silo for summer feeding.

LOCATION OF SILO.

The silo should be as near the feeding barn as possible so that the work of feeding may be done with the least amount of labor. Where the nature of the soil will permit the silo should be dug down into the ground from four to six feet below the feeding floor. If the barn is on a hillside, the silo should be located on the upper side of the barn. The portion that is below ground in most cases is the most satisfactory. Usually it can be built cheaper than the upper part; it is more convenient in feeding and filling.

MATERIALS FOR BUILDING SILO.

As a silo should last fifty years or more it is not wise to use material in building that will soon decay or is apt to warp or shrink, and thus throw the silo out of shape. Various kinds of material have been used in their construction. Some have been made of wood, some of stone, some of brick, some of cement, and some of a combination of all of these. All of these various materials, whether used either singly or collectively, if put together in the proper shape, have given satisfaction. Just which kind of a silo it is best for a farmer to build will depend upon the relative cost of these various substances in his locality. The part that is below ground should not be made of wood.

As the outward pressure is considerable on the walls of a deep silo near the bottom, care should be taken to have the wall strong in this portion. If this part of the silo is made of stone, and they are the common or irregular shaped boulders, it is a good plan to imbed in the wall, near the outside, every three or four feet, a strong iron hoop or a series of short connecting rods extending entirely around the wall. Especial care must be taken in regard to this around the doors. If the silo is made with a continuous door, rods must be used frequently to prevent spreading. Down at the level of the feeding floor the rods should be six feet apart, so that a man can walk through conveniently with a basket of silage.

DRIED SUGAR BEET PULP.

Sugar beet pulp is gradually working its way into recognition as a dairy feed. A great deal has been said as to how it can best be utilized for feeding purposes. In European countries where nothing is allowed to go to waste that science and labor can avoid, the question of making the best use of sugar beet pulp has been at least partly solved in drying the pulp at many of the factories, an undertaking which is only practical with the most efficient apparatus, and even with the apparatus used there, it has not been heretofore considered economical to adopt the system at American factories on account of comparative cheapness of feeds. But with the imporvement in the efficiency of drying apparatus at least one American factory located in Michigan, has adopted the system of drying the pulp.

Whether it is profitable the owners of the factories probably alone know, but it seems to be pretty well demonstrated that the dried pulp makes an excellent food-stuff for cows. In a recent issue of the Michigan Farmer, Mr. Colon C. Lillie, a prominent dairyman and writer, gives his experience with this dried pulp in his dairy during the past winter in the following words:

"Several days ago we fed the last of the car of dried beet pulp. I intended to order some more so I would not get out but I neglected to do so and now have to feed high-priced bran in its place. But the cows will not eat the bran; they do not seem to like it. They would come up every night and morning when they had beet pulp but now the man has to go after them. It seems to me this is the best test so far as palatability is concerned that we could get. The pasture is good and yet the cows ate the pulp clean every night and morning. Now on the same pasture they care but little about the bran, and many refuse to eat it at all. It is the same old story over again with the horses; they eat the pulp readily; but the bran as a substitute they do not seem to like. I am more and more convinced that dried molasses beet pulp is a good thing; all kinds of stock like it and they do well on it. "At first thought one would think that this pulp would certainly not be a good food for horses at heavy work, and yet my experience is that horses do well on it. It contains about 18 per cent sugar, and here I think its great food value lies. Sugar is a good food and in the form here found is a cheap food. Besides, this food has a cooling effect this hot weather and it keeps the bowels in good condition.

BEE SUPPLIES—G. G. Wickson & Co. 143 N. Main Street, Los Angeles, Cal.

LIVE STOCK AT ST. LOUIS.

F. D. Colburn, Chief of the Department of Live Stock of the Louisiana Purchase Exposition, has arranged for a total of over 26,000 prizes in the classifications for horses, cattle, sheep, swine, poultry, etc., for the World's Fair shows next year. These are unprecedented in amount and are divided among twelve breeds of beef and dual purpose cattle with 2352 prizes, four breeds of dairy cattle, 560 prizes; nineteen breeds of horses, 3458 prizes; eleven breeds of swine, 2772 prizes; fourteen breeds of sheep, 2548 prizes; 375 varieties of poultry and pigeons, 10,300 prizes; fifty-seven breeds of dogs, 2604 prizes. There are thirty-two additional prizes for single cows and herds entered in the dairy demonstration; five for oxen; fifty-five for mules and 1310 for the estimated displays of pet stock, vehicles, etc.

Provision has been made for five cash prizes and two honorable mention awards in most sections except poultry. The final arrangements of the classifications may still further enlarge the number of prizes offered.

The Louisiana Purchase Exposition will be the first world's fair to provide for the holding of public sales of pure bred stock, which are assured of crowds of appreciative buyers and good prices. Complete plans have been made for a ring for public sales apart from the main live stock amphitheater, so that sales may be held without interfering with the judging of other features of the exhibition. The sales will be under the auspices of the breeders' associations interested and within the period in which the breed will be on exhibition. The following associations have already asked for assignments of sale dates: Cattle—American Short Horn Breeders' Association, American Aberdeen-Angus Breeders Association, American Galloway Breeders' Association; horses—American Percheron Horse Breeders' and Importers' Association; swine—American Poland China Record Company, National Duroc-Jersey Swine Breeders' Association, American Berkshire Association.

The World's Fair live stock shows of 1904 will be the first in which the classifications will be uniformly divided by age periods of six months instead of one year for beef cattle, swine and sheep, thus giving proper recognition to the general method of feeding for early maturity.

The Kansas Improved Stock Breeders' Association has appointed a committee of three for each of the various breeds of live stock to work for a representative exhibit of Kansas live stock at the World's Fair.

One of the most prominent poultry breeders of England has signified his intention of making a large display of Old English Game fowls and Dorkings in the poultry exhibits at the World's Fair.

The horse said:
Up the hill run me not,
Down the hill hurry me not,
On the level spare me not,
To the hostler trust me not.

There is now in cold storage in this city about 900,000 pounds of butter, which is 200,000 pounds more than this time a year ago. This means that butter will be cheaper next January or February.

Geo. A. Smith of Los Angeles is building a house for his skimming station near Buena Park, Orange county. He now handles at that point about 8000 lbs. of milk daily.

Teacher—"In the sentence, "'Mary milks the cow,' what is the word 'cow?'"

Johnny—"Cow is a noun, feminine gender, and stands for Mary."

THOROUGHBRED POLAND CHINAS
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FOOD FOR HEIFER CALVES.

The care of the dairy cow begins with the calf. No matter what food may follow, if digestion is impaired when the calf is young the highest development is lost. This fact is coming to be more patent as the demand for whole milk increases and the difficulty of raising good sound calves on skim milk increases. Farmers feel that when whole milk is worth $1 to $1.50 per hundred it is expensive food for calves and they say that "it is cheaper to buy the calf than to raise it." This is certainly true if the calf is of doubtful origin. But not true if a reasonable forethough has been exercised in the breeding. A small investment of five quarts of standard milk each day for two months will, if the subsequent food be of a digestive nature, make a good foundation for a dairy cow. Prof. Haward proved that excelent results would follow the use of the following ration as a calf food: Wheat flour, 30 pounds; cocoanut meal, 25 pounds; dried skim milk, 20 pounds; linseed meal, 10 pounds; dried blood, 2 pounds. One pound of the mixture was added to six pounds of hot water and cooled to 100 degrees and fed. The cost of the dessicated milk is thought to be excessive. If the dessicated milk was omitted and the dried blood substituted the cost would be lessened. Six pounds of the dried blood would contain as much protein as the 20 of the dried milk, or if a small amount of whole milk was substituted the value of the ration would remain about the same.

Three months old is as soon as the calf should be fed grain. The calf can be made to take grain feed before this age, but it cannot asimilate the stuff—so nature to bring quick relief purges the animal and the scours follow. Solid food must be fed cautiously in water. The calf will not eat more than it can digest if it is given to it dry. Watch nature and learn many things about animal life.

After three months the calf will begin to take some solid food, and if not over-fed will make a satisfactory growth. It is not the rapid growth of the dairy calf that is desired; it is the uniform, steady development from the calf to the dairy cow that we should study.

A good pasture is one of the things that all calves should have and has much to do with their growth. They should have a pasture to themselves, as they will not have a fair chance when they run with other cattle. This applies to the hand raised calf. There should be shade in the pasture, and if there are no trees there should be a shed. Nothing is more detrimental to the growing calf than for it to lie in the hot sun and pant for its breath. At the proper age skim milk may be substituted for whole milk. These rations were computed for the parties who ship their milk to cities. On the western farms there will be found skim milk to take the place of any artificial ration for the young calf.—Pac. Homestead.

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JERSEY NOTES.

Note that many of the Jersey advertisers are not exclusively Jersey people. That is, while Jerseys may be their pride, they have other interests in hand.

For instance, G. Y. Lytle has made his name on poultry. He handles some of the finest White Wyandottes, White Leghorns, Barred Rocks and Minorcas.

Geo. Thomas of Riverside runs pretty strong to Jerseys, yet takes no little pride in a very fine little vineyard of raisin grapes.

Mr. Keefe sits on the porch of his pleasant home and watches the oranges grow, of which he has a fine grove.

If E. E. Moore has any time to praise anything other than Jerseys, it's Berks, and he has some beauties.

Leffingwell Rancho ships some of the finest lemons on earth and lots of them. They are the biggest feature on the ranch. Notwithstanding that there is now on the ranch some of the best Flying Fox blood.

Geo. Y. Coutts centers pretty close on Jerseys. Still more, he looks at his Golden Lad with much pride.

W. J. Cole doesn't depend entirely upon the registered Jersey for his large dairy, yet his fine stock is his pride.

Guy H. Miller says "Look to breed rather than feed" for rich milk. That's why he runs to Jerseys.

J. A. and C. W. Campbell take pride in a dairy of exclusively registered Jerseys. On the side a few registered Berks take care of the wastes of the ranch.

Geo. E. Platt doesn't buy a cow because she may be pretty or of nice form. She's got to have a constitution and be a producer. She must make money or its equivalent—lots of milk. Milk production is Platt's business.

D. G. Whiting is branching out and is making a large dairy out on the desert at Imperial. His registered stock is still at his San Bernardino dairy.

Lewis Bradbury has a dairy in a different location than most of the other members. That is, it is in the higher foot hill land. His beautiful home is surrounded by plants of many varieties and as well an orange grove which produces some fine fruit. Mr. Bradbury has some of the finest stock ever brought to California.

Regarding the success of his sale of registered Jerseys, Mr. White says: The Echo Glen Jersey herd is sold, except those retained for family use. The special offering of young bulls was secured with five head for Whittier Reform School farm. The stock went to new breeders at a fair average price. They are all readers of the Cultivator and its timely aid made it possible to close out the stock so readily. The city is closing in all around Echo Glen place, and it is for sale as the severe cow-limit law forbids the keeping of a herd. Mr. White is a true Jerseyman and will not give up the business, but will gather another herd as soon as a suitable place and manager can be secured. He expects to go East to visit leading herds and dairy schools to study their methods and tests.

ENCOURAGING.

The Jersey Bulletin of some weeks since said:

"It has been remarked for several years past that the Jersey interests in the State of California is growing in a most thrifty manner. Every body is talking Jersey, and nearly every body wants Jersey cattle. The most prominent agriculturists of the State have taken up the Jersey cause, and are championing it with a vigor, and the agricultural press of that section teems with praise for the breed; all of which is encouraging for those who are ambitious for the success of this breed."

The Bulletin suffers under the disadvantage of being the organ of one breed and of necessity gets a little over enthusiastic. "Every body" isn't talking Jersey, for a lot of folks are so busy discussing "orange merger" and some other things that they wouldn't know a Jersey if they saw one.

Notwithstanding that there are a whole lot of hard-headed, intelligent men—and women—in California who know a good commercial proposition when they see it. And they see it in the Jersey for she is a money maker. There will be more money makers in California soon.

VETERINARY DEPARTMENT

Address all communications to Dr. H. D. Fenimore, Veterinary Surgeon, 642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

INFLUENZA.

Dr. Fenimore: There have been a number of sick horses here. Some called the disease "pinkeye." How does it start and what can be done for it? Please answer through Cultivator.—Subscriber, Cucamonga.

The diseases of horses known as pinkeye, la grippe and epizootic, are properly called influenza. It is a febrile disease, associated with swollen legs, staggery gait, swollen eyelids, and discharge from same; increase of temperature, pulse and respiration. Give the horse a roomy box stall; allow him plenty of fresh water; tempt his appetite and give him febrifuges and diuretics.

* * *

ACTINOMY CASIS.

Dr. H. D. Fenimore: One of my cows has a large lump on the back part of the jaw. It was first caused by fox tails. These have been removed but still the lump does not go down, nor is there any discharge from it. On the same side there is another lump on her neck and a still larger one on her shoulder. The sores cannot be moved but seem deeply seated in the flesh. A ring forms around the top of each sore and seems as though it would drop off, but does not. These do not discharge either. This one on her shoulder makes her somewhat lame. She is not sick, because she eats well and furnishes a larger supply of milk than before. Please tell me what you think causes these lumps and what I had better do for them?—Subscriber, Tulare.

Give 1½ drams of iodide of potassium dissolved in a pint of water once a day for ten days; then give 1 dram of the same for ten days more. This will kill the acute course of the disease, but will not remove the old cicatricies.

* * *

GARGET.

Dr. Fenimore: Every two or three weeks my cow's udder swells up without any apparent cause. It is always in the front, and seems to alternate regularly from side to side. The swelling generally lasts about twelve hours. The first milking after the swelling goes down the milk from that teat is badly clotted, and for a few days she gives but little milk from it. This swelling has been making its appearance for about six months, though is more frequent than at first.—Reader, Upland.

Take one pound of Epsom salts, one ounce of ginger, one-half ounce of aloes, and one dram each of nux vomica and belladonna. Dissolve in a quart of water and give all at one dose. Touch a very little antiseptic, such as creoline to the end of the teats of the affected quarters after each milking to remove a possibility of disease germs entering.

The Los Angeles Creamery Board of Trade will hold their semi-annual election of officers Saturday afternoon. This corporation has been at work for the past five years and its efforts during that time to advance creamery interests has been very successful. There are thirteen members, controlling forty creameries, whose combined output is over 250,000 pounds of butter monthly.

The stock breeders of Canada have petitioned the government to assist in making a display of live stock at the St. Louis World's Fair, by appropriating a quarter of a million of dollars for that purpose.

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J. A. Campbell, R. R. and Ex. Office Buena Park, Cal.

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Makes Hens Lay, Keeps Hens Strong and Healthy, Makes Feathers Grow. It costs a little more to begin with, but it is a richer and more nutritious food and is the cheapest in the end. Do not neglect to feed this food during the moulting season.

Coulson's Egg and Feather Producing Food

Is especially prepared to feed to moulting fowls, as it contains all thd elements necessary to make the feathers grow. Coulson's Egg and Feather Food is not a fattening food, but a food that makes muscle, bone and feathers. A hen may be extremely fat and yet not have the vitality to stand the strain of growing new feathers, and many hens die during the moulting process. If you want your hens to complete the moulting process quickly, and to have a beautiful, glossy plumage, just feed them all they want—a full meal at least once a day (and sometimes twice a day)—of Coulson's Balanced Ration Egg and Feather-Producing Food.

One man says that this year he has been feeding his hens Coulson's Egg Food and the hens have laid more eggs than any year before.

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

WOMAN'S WORK IN THE POULTRY YARD.

Since writing my last article on moulting I have seen the report of the New York State Poultry Institute work, with the questions asked on the moulting subject and Mr. Rice's answers which are of special interest and very valuable.

What is your system of feeding to obtain a quick and simultaneous moult?

Mr. Rice. I do not want to see that done. May be I am wrong, but I have a feeling that when a hen throws all her feathers she has not had a good moult. Would it not be be an unwise provision of nature if the bird family should throw their feathers all off? The natural course of the moult is when the hen has a few feathers slipping away, and others coming to take their place, so that you find feathers in every corner, that is the natural normal moult. But the question is, how can we make her have a natural, normal moult and get through before the cold weatner. With all these theories of moulting and feeding we have never succeeded in getting our hens all out of the moult and in good feather before cold weather came. There are always a few of them that do not respond to their feed, but the principle is right and we will get more of them out of their moult by a certain system of feeding. If we study the law of nature we will discover, that if we keep the hen stimulated, and her body in the best possible condition for laying eggs, she will keep on laying eggs long and late in the fall, and consequently when she does stop her feathers will begin to fall out. If we can make the hen rest earlier in the summer we can do it. You can take a flock of fowls, divide them equally, feed one-half on concentrated foods, and the other half on a ration of whole grains; you can feed corn, oats, wheat, all good grain, but just because you have left off the stimulating foods, you will check their egg production seventy-five per cent in less than ten days. Stopping them laying will enable them to fill their bodies with a surplus and get out of the moult. It is the natural thing for a fowl after it has drained its body by laying eggs for a long period, to want to rest, and when they begin to recover they will begin to shed their feathers. By working upon this principle we can to a certain extent control the moult.

There are certain elements that go to make the feathers and if a hen has not the vitality to make the feathers her old feathers will hang on, or if a hen is very fat her feathers fall off and she cannot make good feathers. When hens do not moult right it is generally caused by debility.

It often happens you want a quick moult. At the time of the Pan American there were many fowls that were very ragged and not fit to show. I asked a man who had some fine looking birds there, "How did you get your poultry moulted?' He said, "I starve them as nearly as possible to death for two or three weeks and when they are in the right condition I feed them all I can of the richest possible food." The idea is to let them rest. When you decrease the vitality you lose the principal things that form the feathers, and when you begin to increase the vitality the new growth will commence.

Whilst I agree with Mr. Rice in many things I think he might have given his formula for feeding moulting hens.

Practically I look upon hens as machines, feed them in a certain way and the machines will turn out eggs; in another way they will fatten and be prime eating. Feed another way and they will make feathers.

Now, the elements of feathers are very similar to the elements of eggs, and I wish to tell you a little experience of mine. I have had some hens sitting on duck eggs four weeks; this should give them a good rest, less food, and be an excellent preliminary preparation for the moult. I put them all into one yard together and fed them alike. One-third commenced to lay in ten days and the others to shed their feathers. Why there should be any difference in them I do not know, unless it may be that those that commenced to lay are such persistent layers that even moulting will not stop them.

Now as to the formula to assist (not control) the moult. The process of moulting begins with the dessication of the old feathers. The quills become dry, the juices are dried out, and the colors are dull and dead. The quills shrink within their cells and the feathers begin to drop out like ripened leaves. The dropping out of the feathers is a hot weather process and is undoubtedly hastened by a hot, dry temperature. Where it is advisable to hasten the dropping of the feathers add oily elements to the food, such as sunflower seeds, hemp, linseed meal or cottonseed meal. These produce heat in the body and increase the feverishness, drying out the quills and loosening them.

Feathers are largely composed of nitrogen with a trace of sulphur, and to make the feathers grow the food should be largely composed of substances rich in nitrogen. Wheat bran, beef scraps, lean beef, ground bones, oats, wheat, clover, alfalfa and some others foods are rich in nitrogen, whilst corn should be added as a heat forming food.

A good formula for a mash for moulting fowls is two parts bran, one part corn meal, one part beef scraps and to each quart of mixture add one heaping teaspoonful of sulphur. To the drinking water add a small quantity of sulphate of iron, just enough to slightly discolor the water, about the size of a pea to a quart of water. Give plenty of green food.

* * *

ANSWERS TO CORRESPONDENTS.

I would like to enquire through your valuable paper how much linseed meal should be fed to, say, twenty--five hens in moulting time.—J. R. H., Arizola, Arizona.

Ans. Five per cent of linseed meal three times a week is the correct amount. By that I mean for every twenty cups of dry feed in the mash add one cup of linseed meal and mix all well together before putting in the water. Cotton seed meal is cheaper than linseed, the hens like it better, and it is more easily digested.

Some answers to correspondents have unavoidably been crowded out but will find a place in our next issue. One subscriber (J. B. D.) asks for a description of roup and its cure. This I will answer next week. A new subscriber wishes for information about pigeon raising, and several want a description of the tar weed; this was given very fully in the Cultivator of June 5th.

* * *

I would like to ask if you find as ready sale for your Indian Runner duck eggs as for hens' eggs? I mean commercial sale, not private. Please

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The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.
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I will ship you during July and August, freight prepaid, to your nearest R. R. station the following articles:

1 100-lb sack "Henteeth" (the best grit) valuc	$1 50
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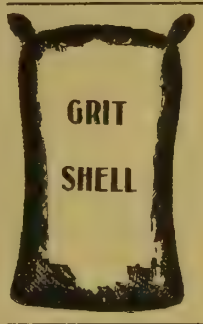

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And during JULY and AUGUST will ship to your nearest freight depot, FREIGHT PREPAID, the following most necessary articles for poultrymen at this season:

1 100-lb. sack "Henteeth" (the best grit) value	$1.50
1 100-lb. sack Granulated Hard Eastern Oyster Shells, value	1.50
1 1-gallon can Black Diamond Lice Killer, "	1.00
1 Black Diamond Hand Sprayer, value	1.00
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"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.

Eggs—13 for $2.00.

INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2.50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.

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Barred Plymouth Rocks
Light Brahmas
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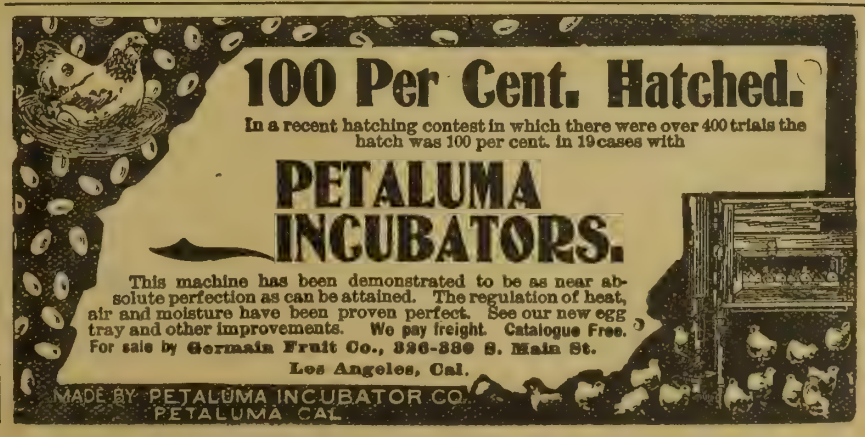

answer through the Cultivator and oblige Mrs. W. T. Gibson, Chino.

Ans. Indian Runner duck eggs are pure white, are not coarse like other ducks eggs in taste, and look like Minorca eggs. Some of my customers are selling them for five cents a dozen more than hens' eggs, to private customers. The bakeries are very glad to get them at the same price as hens' eggs, because they go much further in cake making. The Indian Runner ducks are, without doubt, the bird that makes money in California. They are very small eaters after they get their growth, requiring no more food than a Leghorn hen. They do not have lice or mites, as their feathers are too oily and grow too close for those insects, and they never have roup. The ducklings are easier to raise than any other fowl and are ready for market at ten weeks of age. Ten ducks laid for me last year two thousand three hundred and thirty eggs. They are the greatest layers of delicious eggs of any fowl, and coming from tropical India are admirably adapted to California climate.

CACKLES.

Don't let the charcoal box get empty.

Chicks will not do their best unless their quarters are clean.

A common cause of leg weakness is eating some kind of filth.

Don't let the sick fowls drink from the fountain used by the others.

The work necessary to keep down the lice and mites is well paid for in extra profits.

The manure from the roosting house should be the foundation for a valuable compost.

Be among the chickens as much as possible and take careful note of their habits and wants.

Sour milk is good for chicks. Mix up the soft feed with it some times, but don't get it sloppy.

If you feed milk to the chicks it is best to have it sour always than sometimes sour and sometimes sweet.

Do not delude yourself with the idea that a few lice or mites will do no harm. Get them all, and do it often.

One poultryman says that much of the bowel trouble among chicks can be traced directly to lice on the parent stock.

When there are sick chickens they are liable to communicate their disease to the others through the drinking water.—Petaluma Journal.

A prominent English poultry breeder will make a large display of Old English Game fowls and Dorkings in the poultry exhibit at the World's Fair.

Little May was showing the pictures in the album to the visitor, and on coming to the picture of her father's first wife, she said: "That's my elder mother."—Tid-Bits.

THE "BOSS"
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Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

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12 inch long,	$ 9.00	per 1000
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THE EAGLE'S SONG.

The lioness whelped and the sturdy cub
Was seized by an eagle and carried up
And homed for a while on an eagle's nest,
And slept for a while on an eagle's breast,
And the eagle taught it the eagle's song:
"To be staunch and valiant and free and strong!"

The lion whelp sprang from the eyrie nest,
From the lofty crag where the queen birds rest,
He fought the king on the spreading plain,
And drove him back o'er the foaming main.
He held the lands as thrifty chief,
And reared his cattle and reaped his sheaf.
Nor sought the help of a foreign land,
Yet welcomed all to his own free land!

Two were the sons that the country bore
To the northern lakes and the southern shore.
And Chivalry dwelt with the southern son,
And Industry lived with the northern one.

Tears for the time when they broke and fought!
Tears was the price of the Union wrought!
And the land was red in a sea of blood,
Where brotner for brother had swelled the flood!

And now that the two are one again,
Behold on their shield the word: "Refrain!"
And the lion cubs twain sing the eagle's song:
"To be staunch and valiant and free and strong!"
For the eagle's beak and the lion's paw,
And the lion's fangs and the eagle's claw,
And the eagle's swoop and the lion's might,
And the lion's leap and the eagle's sight
Shall guard the flag with the word: "Refrain!"
Now that the two are one again!
Here's to a cheer for the Yankee ships!
And well done, Sam! from the mother's lips.
—Richard Mansfield in Philadelphia Times.

A SISTER TO BALAAM.

"I'd like to borrow a few fresh eggs, please."

Miss Martha was washing the cream pitcher, a pitcher of the quaint blue ware which had belonged to her grandmother, and she did not look around until the delicate operation was finished. Then she turned squarely and faced her caller. She was a trim, active little woman, who had not lost her youthful slenderness, and though she had begun to speak of herself as an old woman her friends were inclined to regard the title as a joke.

The girl in the doorway was of an exaggerated slenderness that made Miss Martha seem almost portly, and her eyes met Miss Martha's with the unwavering intensity of one who claims a right rather than asks a favor. After a moment she repeated her request. "If you please, I'd like to borrow a fresh egg."

"H'm," reflected Miss Martha. "Yesterday it was half a loaf of bread, wasn't it?"

"That's what I asked for," said the caller. "You gave me a whole loaf."

"And the day before," continued Miss Martha, taking no notice of this reply, "it was a cup of milk."

The girl in the doorway nooded, still keeping her unwinking gaze on Miss Martha's face. Miss Martha, vainly scrutinizing her caller's face for any trace of embarrassment, was annoyed to find herself flushing to the roots of her hair.

"I can't say that I approve of borrowing," Miss Martha went on. "If I run out of soda or molasses I just tell myself that it serves me right for not being more foresighted, and I get along without what I want till I' ve had a chance to go to town. And as long as I've got principles against borrowing," she concluded, swallowing a lump in her throat, "it's no more than reasonable that I shouldn't believe in lending."

"Then aren't you going to let me have a fresh egg?" asked the girl in the doorway. She spoke dispassionately as though she were merely interested to know how far Miss Martha's principles would carry her.

Miss Martha rallied her forces. "No, I guess not. You see, this thing's got to stop some time. And it might as well be now as ever."

"Good-by," said the girl, turning away. Then as if she feared she had been abrupt, she halted on the doorstep to say, "It's a nice morning." But Miss Martha dropped into a chair and wiped her damp forehead.

"My! that girl's a case," she ejaculated, with a distinct sense of relief as she heard the gate click behind her visitor. "She's brazen, that's what she is! The way she looks at you makes you feel as small as though she had caught you in some mean trick. I suppose I'll have to buy that Bailey place yet and tear that house down, to get rid of the neighbors it brings."

"The Bailey place" was, in fact, the bitter drop in Miss Martha's cup. The tumbledown house was halfway down the slope of the hill which was crowned by Miss Martha's neat cottage. Much of the time it was empty and then Miss Martha suspected it of affording a haven to tramps. The rest of the year it was occupied with shiftless tenants, whom she rated below the tramps, inasmuch as they were so much more in evidence. The last occupants had been in possession less than a week, and the various steps in their acquaintance had been outlined by Miss Martha in her conversation with the girl in the doorway.

The hours went by, and even at nightfall Miss Martha had not regained her accustomed equanimity. either the day had been peculiarly full of small vexations, or her morning's encounter with her neighbor had been more disturbing than she would acknowledge. Even the counting of the eggs was a disappointment. Miss Martha's pride in her hens was only equaled by the admiration of the women in the neighborhood, who were in the habit of declaring that they would give the world to know what Miss Martha did to her hens to make them lay so. At this season of the year she could depend upon them to do their duty about as she depended on the sunrise, but today the number fell short by one. And strangest of all, it was Speckle who was the delinquent Speckle's big brown contribution to the common store was unmistakable, but for once it was conspicuous by its absence.

The next day the same thing happenend. The first omission had made Miss Martha frown. The second set her thinking. Speckle did not want to set, that was certain, and she was not a hen to take unreasonable freaks, like a foolish young pullet. There was a possibility that she had stolen her nest but Speckle had never done such a thing in all her decorous life. "I thought she took it wonderfully cool when I wouldn't let have that egg," said Miss Martha to herself, her lips tightening. "I guess she'll bear watching." And the prououn did not refer to Speckle.

Along in the forenoon of the third day Miss Martha put on her hat and started down the hill in the direction of the Bailey house, with a vague purpose of meeting her girl neighbor and dropping a hint which would stop her i n her dishonest career, but instead it was Miss Martha who received the check. As she advanced toward her neighbor's her eyes wandered to the dilapidated side porch, overhung with tangled vines, and there on the upper step sat a speckled hen. Miss Martha rubbed her eyes, but those organs had not played her false. The hen was Speckle, and even as her mistress stood and stared she rose to her feet with the triumphant cackle which had gladdened Miss Martha's heart so often in the past. There was only one explanation to the mysterious circumstance Speckle had taken it upon herself to grant the favor her mistress had refused!

Miss Martha turned and went home with a strange sense of bewilderment. She was too upset to prepare her usual hearty dinner, and instead made herself a cup of tea, like any one in the world but a sensible spinster who had kept house alone for a matter of twenty-five years. She was washing a single cup and saucer when footsteps sounded on the walk, and the girl from the Bailey house came into the kitchen. She held in her hand a tin dish containing three eggs, and she set them down on the table.

"I suppose I ought to have told you before," she said, as Miss Martha turned tremulously. "Your speckled hen's been stealing her nest. For the last three days she laid on our doorstep."

She looked as if she did not expect to be believed, but Miss Martha had good reason for thinking the improbable story true. "Won't you sit down?" she said, appealingly.

The girl did not seem to hear the invitation. "I don't know as I need to tell you," she went on, "but I guess I will. I came near keeping those eggs. I thought—" her resolute young voice broke suddenly—"I thought maybe the Lord had sent them."

"O dear me!" cried Miss Martha. She crossed the room and laid her hand on the visitor's arm. "You sit right down," she half commanded, half entreated. "I've got to understand this."

The girl sank into the nearest chair and began to cry. "It was for mother I wanted the things," she sobbed. "The doctor said she'd got to have nourishing food, and what's a girl to do when her father drinks? Half the time he's out of work, and when he gets a little money he spends it for more whisky."

The undemonstrative New England woman clasped her visitor's hand. The girl leaned back against the friendly shoulder and wept as if there were comfort both in the contact and the tears.

"I didn't blame you any of the time. It was most a lie anyway when I asked you to lend things just as if I meant to pay 'em back. I know it was just the same as begging, but somhow I didn't care if only mother'd get well."

"You sit still in that chair," Miss Martha commanded. "Don't stir out of it till I get back." She hurried into the pantry and began to fill a basket which stood upon the shelves. It was a heavy basket when she brought it out, for Miss Martha's housekeeping was on a liberal scale, if she did live by herself.

"You'll let me scrub or something to pay you back, won't you?" said the girl, lifting eyes eloquent with gratitude. "I can do 'most all kinds of work, I don't care how hard it is."

"Don't worry about paying it back," Miss Martha returned, patting her shoulder. "But I don't say you can't help me out some day. That's what neighbors are for, you know, to help each other. Tell your mother I'll drop in to see her tomorrow. I'm pretty

Trousers

Appropriate at all seasons of the year is a little talk on trousers. Beginning with our special leader at $2.35—really worth $3.00—a trouser for men who have heavy work, and then our special $3.00 corduroys which are easily worth a dollar more, they run along in easy price-steps up to the fine dress trousers at $5.00, $7.50 and $10. In style, fit and comfort they're unsurpassed.

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Los Angeles, Cal.

good hand at fixing up sick folks."

After her visitor's departure Miss Martha made an errand to the back yard, and carried Speckle some scraps, which that sagacious fowl took from her hand. "I can promise you one thing," said Miss Martha, looking fondly down at her favorite, "you won't ever be fricasseed or made into a pie, no matter if a dozen ministers came to dinner and there wasn't a scrap of meat in the house except bacon. Its a queer thing," added Miss Martha, a touch of solemnity creeping into her voice, "for a women of my age to be taught her duty by a speckled hen. Dumb things see more than we do, sometimes. I can't help thinking that I'll feel like a sort of sister to Balaam for the rest of my natural life."—Christian Advocate.

A LEGEND.

A legend was told me the other day which may interest you. A young man, discontented with his lot, dreamed a wonderful dream. He was carried into a beautiful country, and was driven in state through leafy boughs and under arching trees, through groves redolent with orange blossoms. Rare exotics bloomed on every side. The place seemed a perfect fairyland of beauty. After driving for miles and miles he stopped before a magnificent palace. It was built of marble, and the carving was of the finest workmanship. Its minarets and domes were ornamented with rare jewels, which flashed in the sunshine. The doors were of pearls, the floors of gold, and the ceilings instead of being frescoed, were studded with rubies and diamonds. The building was enormous of size, covering, with its wings, fully a square mile, and everything was on a scale of rare splendor. Stepping to one side of the palace, his eyes rested on a dark brown niche, small, but in such a striking contrast to the palace that he asked the guide what it meant and why it was not marble also, and set around with precious stones. Imagine the young man's surprise when he said: "The fault is yours. This is the palace Beautiful, and this is your niche. You have been unhappy because of your lowly station in life, and since you could not have a position of prominence, you have spent your time discontented, while others have been improving their time and talents. It rests upon you alone to make this place perfect." The young man awoke, saw the lesson taught by his dream, and set to work to marbleize his "brown niche."—Ex.

HOW TO COOK HUSBANDS SO AS TO MAKE THEM TENDER AND GOOD.

A good many husbands are spoiled in the cooking. Some women go about it as if their husbands were bladders and blow them up; others keep them constantly in hot water; others let them freeze by their carelessness and indifference. Some keep thm in a stew by irritating ways and words; othrs roast them. Some keep them in a pickle all their lives. It cannot be supposed that any husband will be tender and good managed this way; but they are really delicious when properly treated.

In selecting your husband you should not be guided by the silvery appearance as in buying mackerel; nor by the golden tint as if you wanted salmon. Be sure and select him yourself as taste differ. Do not go to market for him, as the best are always brought to your door. It is far better to have none unless you will patiently learn how to cook him.

A preserving kettle of the finest porcelain is best, but if you have nothing better than an earthenware pipkin it will do with care. See that the linen you wrap it in is nicely washed and buttons and strings nicely sewed on. Tie him in the kettle with a strong, silk cord, called comfort, as the one called duty is apt to be weak. They are apt to fly out of the kettle and be burned on the edge, since like crabs and lobsters, you have to cook them alive.

Make a clean, steady fire out of love, neatness and cheerfulness. Seat him as near this as seems to agree with him. If he sputters and frizzles, do not be anxious; some husbands do this until they are quite done.

Add a little sugar in the form of what confectioners call kisses, but no vinegar or pepper of any account. A little spice improves him, but it must be used with judgment. Stir him gently; watch the while, lest he lie too flat and close to the kettle and so become useless. You cannot fail to know when it is done. If thus treated, you will find him very digestible, agreeing nicely with you and he will keep as long as you want, unless you become careless and set him in too cold a place.—Ex.

HOMELY HINTS.

To make an invisible paste boil one-fourth cup of rice in two cups of water till thick, then strain.

Calfskin boots, now so much worn in cold weather, should never be blacked with liquid dressing, as the drying agent contained therein quickly cracks the leather. Instead, use a brush polish such as men use. Better still is monthly dressing of neatsfoot oil, which at once softens the leather, makes it impervious to dampness, and gives the fashionable dull black finish.

To dress kid shoes rub with vaseline while the shoe is on the foot and the leather warm. Then, grasping a strip of woolen cloth firmly in either hand, rub briskly, and you will have accomplished an "oil shine."

Children's boots will wear twice as long if the soles are painted with copal varnish while they are new.

Nothing is so nerve-trying as a pair of "squeaky" shoes, and the first thought of remedies most often make the matter worse. To remedy the squeak stand the shoes in a tin plate covered with just enough turpentine to reach the line of the inner sole without touching the "upper" leather. Let it soak for a day and then dry for two days before wearing, when it will be found that the soles are not only noiseless, but waterproof, and will wear almost twice as long. The turpentine seems to harden the leather without stiffening it.

RECIPES.

Drawn Butter.—Cook together until they bubble a tablespoonful each of butter and flour, and when they are blended add a cup of hot milk. Stir to a smooth sauce, season to taste and serve. Some persons make drawn butter with boiling water instead of milk.

Boston Baked Beans.—Soak a pint of beans over night; then put into a pot with a pound of salt pork, cover with water and boil until tender. Drain, season with pepper and salt, stir in a small cup of molasses and turn into a deep pudding dish. Put the pork in the center of the beans, cover closely and bake in a moderate oven for six or eight hours. If the beans are in a pudding dish, uncover them a half hour before removing them from the oven, that they may brown on top.

* * *

To Make Cheese Straws.—Roll a puff paste thin, sprinkle well with grated cheese and a little cayenne pepper, fold, roll out and repeat the process. Let it stand in a cold place for a time, then roll extremely thin; cut strips about a quarter of an inch wide and three inches long, take up carefully with the pancake turner and lay on the bottom of a reversed dripping-pan, and bake in a slow oven to a delicate brown. When serving hot or cold as a course at dinner or with the salad, pile cobhouse fashion on a fancy plate.

* * *

Cheese crusts may be substituted for cheese wafers if preferred. Thin slices of bread are cut into finger-lengths, buttered and toasted over a clear fire; each piece is then thinly sprinkled with grated cheese dusted with a very little paprika or cayenne pepper, and put on a tin plate in a hot oven for a minute or two to melt the cheese. They are then piled lightly on a folded napkin, laid on a plate and sent around hot with the salad course.

* * *

Lemon Sauce.—Cream one-third of a cupful of butter, add one cupful of sugar and the yolks of two eggs slightly beaten. Add a third of a cupful of boiling water, and cook over hot water until the mixture thickens slightly, then add three tablespoonfuls of lemon juice and a few gratings of lemon rind.

His cup contains no trace of joy,
He's wedded to the blues;
He seeks to find the hotel boy
Who blacked his yellow shoes.
Washington Star.

WHAT A BOY CAN DO.

Be polite.
Be prompt.
Be obliging.
Obey his parents.
Keep himself tidy.
Refuse to do wrong.
Never use profanity.
Never learn to smoke.
Keep out of bad company.
Never laugh at a coarse joke.
Never be disrespectful to old age.
Take the part of those who are ill-used.—Ex.

Boys as well as girls should be taught to sew. It may be an unspeakable convenience in after life, for a man to know how to sew on buttons and strings, to darn his own stockings, and to put a neat patch on a garment.

The few minutes just before sleep at night are as important to the child as his first waking ones. The mind works with unusal clearness just as the little frame is settling to repose. A mother should send the little one into slumber land, with a short, pleasant story told in gentle voice, and never leave to the care of servants these significant moments.

How I envy the Eskimo,
As he floats on a big ice-floe!
His palate he tickles
With ten-inch icicles,
And lunches on nard-frozen snow.
—New York Journal.

According to a report forwarded to the Swedish minister of education, children who are four years old should sleep twelve hours; children who are seven years old, eleven hours; children who are nine years old, ten hours; children who are from twelve to fourteen years old, from nine to ten hours, and those who are from fourteen to twenty-one years old, from nine to ten hours. It further points out that anaemia and weakness in children are frequently due to lack of sleep.

Behind every opportunity stands a greater opportunity. When we enter the one we find ourself facing the other. Behind it is still another, yet greater. Thus increasing opportunities present themselves as we progress. But the great never appear to him who neglects the small.—Selected.

"I wonder how many of you know the meaning of mercy," said a teacher in a Chinese mission school; and a dozen brown hands were held up. "Very good. Now you, Chang, may give us an illustration of its meaning." And Chang said, "Melican lady give Chinese boys glishes to wash. One plate fall on floor and blake in thousand pieces. Melican lady cly loud, 'O, mercy'!"—Christian Observer.

AN ADVANCE STEP.

The announcement is made in Los Angeles that the management of the Brownsberger Home School is constructing another addition to the already large building occupied by the school. A large and completely equipped gymnasium has been erected, and it seemed to Mrs Brownsberger that a building specially built for the purpose would meet the needs better than any temporary arrangement. A gymnasium handled along the lines that the Brownsberger School will maintain will prove one of the most valuable features of the institution. Its use will not be obligatory, but without doubt the innovation will be heartily welcomed by the students, as the average young man and woman who lays aside physical exercise ior mental discipline, craves something to make his blood boil at times. A trained instructor will be provided, and hours will be set aside ior the ladies and the gentlemen. The plans of the building include spray baths, lockers, and the latest and a very extensive gymnasium equipment. In fact it will probably surpass anything of the kind now to be found in the city. The Brownsberger does not believe in doing anything by halves. It is this principle that has enabled the school to graduate several hundred students during the past year, and place them in positions.

The Brownsberger Home School provides a pleasant home in the city for out-of-town students, where culture in every higher sense may be had.

A little Maine girl, in whose family there came an addition, remarked, with a sigh: "Now we shall have to cut the pie in six pieces.—Morning Star.

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Los Angeles Markets.

Los Angeles, July 16.

Butter is in good demand with plenty of eastern arriving. The amount in cold storage is 200,000 pounds in excess of last year this date.

Eggs are in strong demand though only one cent increase over last week's quotations. Fresh eastern are arriving in quantities and readily taken.

Potatoes show a decided weakness and promise still lower quotations. The new crop is, as a rule, of excellent quality. The output of Southern California this year is said to be about 400 to 500 cars.

Watermelons are arriving in three or four car load lots a day from the desert. The end of the season for desert melons is at hand, but the local crop will probably be ready to take its place within the next ten days. The receipt from the desert supplies yet to come will not aggregate more than ten car loads.

Plums and prunes are plentiful.

Butter.

B. of T. Creamery, per -lb roll		60
Coast Creamery	.55	
Cooking per lb	.22	25

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	.16	17
Domestic Swiss	.19	
Imported	.28	

Eggs.

Fresh Ranch	.21	.22
Store, case count	.20	.21

Potatoes.

New Potatoes, per cwt	.80	1.00

Beans and Dried Peas.

Limas	3.85	3.95
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.50
Onions, red		1.00
Onions, green	.10	
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.45	
Carrots, per sack		.90
Chiles, green, per lb		.08
Peas, green, per lb	.05	
Lettuce, per sk	.40	.60
Radishes	.10	
String Beans	.04	.05

Fruits; Fresh.

Apricots, box of 30 lbs	.40	.60
Cantaloupes—Per crate	1.50	1.75
Figs—Per box	.40	.50
Strawberries, bx, fancy	.05	
Raspberries—Per box	.05	.07
Blackberries—Per box		.04
Logan Berries—Per box	.03	.04
Cherries—Per box	1.00	1.50

Fruits; Dried.

Apricots	.04	.06
Pears	.07	.08
Peaches peeled	07	08
Peaches, fair to good, sks	.03½	05
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.06
London layers, per box	**1.00@2.00**	
Loose, per box	6¼	7

Poultry.

Spring chickens	.15	.16
Hens, No. 1, per lb	12½	13
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22	.23
Ducks, per lb	.10	11½

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	**4 00**	**5 00**

Hay and Grain.

Barley hay	8.50	12.00
Alfalfa, large bales	9.00	11.00
Wheat hay	9.00	11.00
Barley, old		1.30
Barley, new crop		.80
Corn, per ctl		1.50
Wheat	1.60	
Oats		1.50
Bran		1.25
Rolled barley		1.05

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SAMSON IRON WORKS STOCKTON CALIFORNIA

San Francisco Markets.

Dairy.

SAN FRANCISCO, July 16.—There is a slightly better tone in the butter market, though it has seen some ups and downs during the week. Many creameries are closing on account of feed shortage and this is materially cutting off the receipts. At present the maximum rates are demanded by holders of fancy creamery and in some cases a premium of one cent has been exacted. As a rule buyers are ordering only actual present needs. Large quantities of Eastern butter are reported en route. There are also heavy holdings in storage which will doubtless be used to prevent to great an increase.

Cheese sells up to full quotation and the tone of the market favors the seller.

BUTTER—Per lb.:

Creamery extras	.26	
Creamery firsts	.28	@25
Dairy, extras	.23	
Dairy first	.21	@22
Store	.18	@19

CHEESE—Per lb.:

Cal. Creamery, mild new, extra	13½@14
Cal. Creamery, mild new, choice	12½@13
Young America	13½@14½
Eastern, New York cream	18 19

Eggs and Poultry.

Eggs have taken a very material advance and promise no decline. All offerings of selected ranch are quickly cleaned up at maximum quotations. Even lower grades are quickly taken at quoted prices.

EGGS—Per doz.:

Ranch, selected, large	.25	
Ranch, good to choice	.22	24
Store	.18	@20
Eastern	.17	@20

POULTRY—Old Roosters, per doz., 5.00@5.50; young Roosters, $8@10; Fryers, $5@6; Broilers, large, $3.50@4; small, $2.50@3; Hens, $4.50@6; Ducks, per doz, old, $3.50@4.50; young, $4@5; Turkeys, nominal; Geese, per pair, $1@1.50; Goslings, $1@1.50; Pigeons, per doz, young, $1.75; do, old, $1.50@1.75.

Fruits and Vegetables.

There are now the best of deciduous fruits, and at the same time much small and inferior stock. The latter tends to drag down the value of fancy stock. The first of yellow peaches are now arriving from the interior valleys. Available supplies of attractive lots clean up readily at the maximum quotations. First quality Bartlett pears are scarce and command top prices. The apple market is easier, with increasing supplies of fancy stock. Grapes are abundant and of good quality, but do not command quoted rates. There are still straggling shipments of late cherries with nominal quotations.

In vegetables there is a slightly increasing activity in prices of desirable quality goods, and have maintained offerings above expectations. There are liberal offerings of choice tomatoes which are commanding full figures. String beans are of very attractive stock, and command slightly increasing quotations. The first green Lima beans of the season which came in during the last week readily command eight cents per pound. Demand for asparagus slightly declined. There will doubtless be but a few more offerings of this vegetable this season.

Quotations are:

FRESH FRUITS—Apples—Per box, common to choice, 50c@$1; fancy, $1.25@1.50; Crab Apples, per box, 30@50c.

PEARS—Per box: No. 1 Bartlett, $1@1.25; common, 50@75c; other varieties, 35@65c; basket, 35@50c.

PLUMS—Per box or crate, 25@60c; baskets, 15c@40c, according to variety.

CHERRIES.—Per box: Black, 65@75c; basket, 35@50c; bulk, per ton, $20@35.

PRUNES.—Per box or crate, 35@75c; basket, 25c@40c, according to variety.

FIGS.—Per box, 25c@$1.

APRICOTS.—Per box or crate, 40@75c; basket, 35@50c; bulk, per ton, $20@35.

CANTALOUPES.—Per crate, $2@3.50.

NUTMEG MELONS.—Per box, $1.50@2.,

WATERMELONS—Per dozen: Fresno, $1.75 @$3.50; Coachella valley, 10@35c each.

GRAPES—Per crate, Seeedless, 60@85c; Blacks, 60@85c.

BERRIES—Per chest: Strawberries—Longworth, $4@7; large varieties, $2@3; Blackberries, $2.50@4; Raspberries, $4@7; Logan Berries, $2@$3; Currants, $2@4.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, $1.75@2.50, as to quality; Valencias, $1.75@2.75; St. Michaels, $2@2.75; Seedlings and Mediterranean Sweets, $1@1.50; Lemons, $1@3; Grape Fruit, $1@2; Limes, $5.50@6.

VEGETABLES.—Asparagus, per box, $1@$2.25; Tomatoes, local, per box or crate, 50@85c; do, river, large box, $1.50@2; Green Peppers, per box, Bell, 75c@$1.25; Chile, 75c @$1.25; Dried Peppers, 6c; String Beans, per lb, 3@5c; Wax, 3@5c; Green Peas, per lb., 3@4c; Egg Plant, per box $1@1.50; Summer Squash, per box, 85c@$1.25; Cucumbers, per box, 75c@$1.25; Garlic, per lb, 2@3c; Green Corn, per sack, 75c@$1.50; crate, $1@$1.75; Okra, per lb., 12½@17½c.

ONIONS—New Silver Skins, per ctl., 60@70c.

POTATOES—Per ctl.: New Whites, per box, $1@1.35; per sack, 75c@$1.10; Early Rose, 85c@$1; Garnet Chile, $1@1.15; old Oregon Burbanks, $1.25@1.50.

Future Apricots are yet uncertain though limited offerings are made at 7@7½c. Holders seem indifferent as to present sales. In prunes, local brokers claim sales will be on a 2¾ basis, with no premium for large sizes.

Dried Fruits, Nuts, Etc.

DRIED FRUITS.—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1902 crop are, per lb., as follows:

Apples—Evaporated, 4@6½c; Sun Dried, 3@4c.

Apricots—Royal, 6½@8½c; Moorparks, choice, 9c.

Peaches—4¼@6½; peeled, in boxes, nominal.

Pears—4¾@9½c.

Plums—Pitted, 4½@6c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2⅜@2¾c, with ½@1c premium for large sizes.

Nectarines—Whites, 4@5½c.

Figs—White, 5½@6c; Black, 5c.

There is no noteworthy change in the condition of the Live Stock market, general trading being moderately active within the quoted range of prices. Hogs still lead in point of demand, with offerings of first quality stock keeping well cleaned up at the maximum rates.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown, $1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—Comb, per lb., nominal; Extracted Water White, 7c; Light Amber, 6½c; Dark Amber, 5c.

BEESWAX—Per lb., 32c.

Live Stock.

Quotations are:

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@8½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb.: Fat Wethers, No. 1, 4@4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 140 lbs and over, 6¼@6½c; weighing under 130 lbs, 6@6¼c; weighing 260 to 350 lbs, 5½@6c; rough, heavy, 5½@6c.

Hay and Feed Stuffs.

HAY—Prices on New Hay, per ton: Wheat $9.50@12.50; Wheat and Oat, $9.50@12; Oat, $8@11; Barley, $8@10.50; Clover, $8@10; Alfalfa, $8.50@$10.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50.

FEED CORN MEAL—Choice grades, per ton, $29@30.

MIDDLINGS—Per ton, $28@30.

RICE MEAL—Mill price, $18 per ton.

BRAN—Per ton, $24.50@25.50.

CRACKED CORN—Choice quality, per ton, $30@31.

COCOANUT CAKE—Best quality: In lots of 10 tons and upward, $20 per ton; 5 tons, $20.50; small quantities, $21.

BEANS—Prices per ctl.: Large Whites, $3@3.15; small do, $3.15@3.30; Pea, $3.25@3.50; Lima, $3.45@3.60; Red, $2.90@3; Pink, $3@3.10; Bayo, $3.65@3.75; Blackeyes, $2.75@3; Red Kidneys, nominal.

The scope of business in the local bean market continues narrow, as is customary at this seaon of the year, but prices are well sustained, and holders show a marked indifference in regard to sales. Available supplies are light, and the market is in excelent position for the selling interests.

Hops.

The prices for new crop are 18 @20c per lb, according to quality.

Eastern Markets.

New York General Market.

NEW YORK, July 15.—Wheat: Spot easy; options closed ¼ to ⅜ net lower, except December, which was ⅛ higher. Options opened easy under favorable weather and foreign selling, but later rallied by higher outside markets, less favorable threshing returns, southwest buying, export demand and covering. They finally broke, however, under bearish Wall street conditions, and closed ¼ to ⅜c net lower, except December, which was ¼c net higher. Sales—July, 84¼@84⅝; closed 84¼; September, 81¾@82⅞; December, 81¼@82⅛; closed 82; steady. Hides, quiet. Leather steady. Wool firm.

Chicago Live Stock.

CHICAGO, July 15.—Cattle: Recipts, 15,000; markets steady; good to prime streers, 5.00@5.50; poor to medium, 4.00@5.00; stockers and feeders, 2.50@4.50; cows, 1.50@4.25; heifers, 2.25@3.00; canners, 1.50@2.80; bulls, 2.25@4.25; calves, 2.50@6.00;; Texas fed steers, 3.35@4.50. Hogs, receipts today, 28,000; tomorrow, 25,000; left over, 7700; steady to strong; mixed and butchers, 5.00@5.40; good to choice heavy, 5.20@5.40; rough heavy, 4.50@5.20; light, 5.30@5.60; bulk of sales, 5.20@5.50. Sheep, receipts, 12,000; sheep and lambs, steady; good to choice wethers, 3.75@4.00; fair to choice mixed, 4.00@4.50; western sheep, 3.50@4.50; native lambs, 3.00@6.40.

California Dried Fruits.

NEW YORK, July 15.—The market for evaporated apples is a shade firmer, though spot demand was quiet. Common, 5@5¼; choice, 6@6¼; fancy, 6¼@7½. Spot prunes are steady to firm at from 3@7c for all grades. Apricots are steady. Choice are quoted at 7¾@8½ and fancy at 10@12½. Peaches are in moderate jobbing demand, and are about steady. Choice are held at 7@7½ and fancy at 8@10½.

Los Angeles, Cal., June 30, 1903.

The following named children have been received in the Boys' and Girls' Aid Society Home since April 1st.

Half orphans: William Higgins, male, aged 11 years, light hair, blue eyes; Harry Higgins, male, aged 10 years, light hair, blue eyes; Rowland Higgins, male, aged 8 years, light hair, blue eyes; Harry Higgins, male, aged 6 years, light hair, blue eyes; Ruby Higgins, female, aged 4 years, light hair, blue eyes; Peppa Bailey, female, aged 8 years, black eyes, dark hair; Roberto Bailey, male, aged 4 years, dark hair, black eyes; Gertrude Chapman, female, aged 6 years, dark hair, black eyes; Chester Garwood, male, aged 9 years, light hair, blue eyes; George Carwood, male, aged 11 years, light hair, blue eyes.

MRS. E. A. CHRISTIAN, Supt.

CITRUS MARKETS

ORANGE MARKET.

The market conditions in the auctions have been generally unsatisfactory during the past week, having a much greater supply than could be hadled at satisfactory prices. The condition of seedlings and sweets has been poor, most of them showing heavy decay. Strictly fancy fruit in fair condition, has brought satisfactory prices. The market should be fairly well cleaned up the last of this week and next week's sales show better results.

Western markets are in satisfactory condition, being quite well cleaned up, but with light movement and dealers hesitating to pay the higher prices for Valencias as long as the sweets and seeds continue to arrive, and sell for about $1.00 per box less.

The lighter movement from California since the first of this month should put the market in fair shape, but other fruits are becoming plentiful and cheap, and light shipments only can be used to advantage.

LEMON MARKET.

Lemons have continued to sell at fairly good prices although weather conditions are less favorable for their consumption. Shipments are generally heavy and will require warm weather to consume them at top prices. All things considered prospects are quite favorable for satisfactory results for shipments of citrus fruits now going out.

Shipments of citrus fruits from Southern California for the season from November 1, 1902, to date, are 20,422 carloads, of which number 2137 carloads are lemons.

NEW YORK, JULY 8.

Market depressed.

Riv. Fr. Ex., La Mesa navels, $2.20. Golden Rule navels, 10 per cent decay, $1.55. La Mesa Mikes, $2.70.

A. C. G. Fr. Ex., Pointer Valencias, $2.90. Hunter Valencias, $1.75. Pointer, 15 per cent decay, $2.20.

A. C. Fr. Ex., Leader navels, 25 per cent decay, $1.55.

C. C. U., Orange, Texas sweets, 10 per cent decay, $1.60.

PITTSBURG, JULY 8.

Market weak.

C. C. U., Covina, Mon Valencias, $2.90. Margaret Valencias, $2.65.

S. S. Fr. Ex., S. S. lemons, $2.55. S. S. lemons, 15 per cent decay, $2.25.

C. C. U., Whittier, Pansy Valencias, 20 per cent decay, $1.50.

BOSTON, JULY 8.

Market is steady.

Riv. Fr. Ex., Red Print seeds, 10 per cent decay, $2.05.

C. C. U., Lindsay, Holly Wreath Valencias, $3.10.

O. K. Fr. Ex., Bear navels, $3.35. Bear sweets, $3.40. Quail Mikes, $3.45.

PHILADELPHIA, JULY 8.

Market steady.

Cov. Fr. Ex., Choice Valencias, 10 per cent decay, $2.25.

A. C. G. Fr. Ex., Pointer Valencias, $2.80. Hunter Valencias, $2.15.

S. B. Co. Fr. Ex., Tallyho sweets, $2.40. Tallyho Mikes, $2.60.

CLEVELAND, JULY 8.

Market advancing.

Riv. Fr. Ex., Blue Globe Mikes, $3.30. Red Globe Mikes, $2.75.

C. C. U., Santa Ana, Texas sweets, $2.15. Texas Mikes, $2.65.

C. C. U., Riv., Turquoise seeds, $1.95. Fancy Tangerines, 20 per cent decay, $.60.

NEW ORLEANS, JULY 8.

O. K. Fr. Ex., Owl Valencias, $2.10.

CINCINNATI, JULY 8.

S. S. Fr. Ex., Choice Valencias, $2.70. Standard Valencias, $2.50.

Riv. Fr. Ex., Standard sweets, $1.70. Blue Globe grape fruit, $.90.

S. A. Fr. Ex., Parrot seeds, $1.25. Parrot budded seeds, $1.70. Parrot sweets, $1.50.

CINCINNATI, JULY 10.

Market weak.

S. S. Fr. Ex., S. S. Valencias, $1.80. S. S. Mikes, 10 per cent decay, $1.85.

S. B. C. Fr. Ex., Floral sweets, 10 per cent decay, $1.65.

CLEVELAND, JULY 13.

Market steady.

C. C. U., Rialto, Excelsior sweets, $2.10. Margaret sweets, 15 per cent decay, $2.10.

C. C. U., National City, Extra Choice lemons, $3.65. Choice, 15 per cent decay, $3.15.

C. C. U., Fullerton, Trumpeter sweets, $2.30. Trumpeter Mikes, $2.30. Dragon sweets, $1.95.

O. K. Fr. Ex., Owl Valencias, 10 per cent decay, $1.30.

PITTSBURG, JULY 10.

Market improving.

C. C. U., Lindsay, Victory Valencias, $2.30.

S. A. Fr. Ex., Parrot seeds, 10 per cent decay, $1.50.

C. C. U., Santa Ana, Texas sweets, 25 per cent decay, $1.40.

C. C. U., Lindsay, Amethyst Valencias, 5 per cent decay, $2.10.

CLEVELAND, JULY 10.

Market steady.

S. T. Fr. Ex., Whittier Valencias, $3.30. Pico Valencias, $3.00.

C. C. U., Ontario, Peacock sweets, 15 per cent decay, $2.15.

C. C. U., Pasadena, Victory seeds, $1.60. Texas Valencias, 20 per cent decay, $1.20. Red Mountain sweets, $2.10.

S. A. Fr. Ex., Volunteer seeds, $1.80. Foot hill seeds, $1.45. Volunteer sweets, $2.00.

NEW ORLEANS, JULY 10.

V. Co. Fr. Ex., Selected sweets, $1.90. Selected seeds, $1.90.

NEW YORK, JULY 10.

Riv. Fr. Ex., La Mesa navels, 10 per cent decay, $1.85. Golden Rule navels, 5 per cent decay, $1.80. Golden Rule seeds, 7 per cent decay, $1.55.

S. B. Co. Fr. Ex., Floral Mikes, $2.55. Floral sweets, 7 per cent decay, $1.65.

C. C. U., Pasadena, Texas Valencias, 7 per cent decay, $1.55.

BOSTON, JULY 10.

Market weak.

S. A. Fr. Ex., King Mikes, $3.10. Stork Mikes, $2.55.

O. K. Fr. Ex., Bear navels, $3.45. Quail navels, $2.85.

C. C. U., Rialto, Marguerite sweets, $3.00. Marguerite bloods, $2.25. Marguerite Valencias, $2.90.

C. C. U., Riverside, Favorite sweets, 10 per cent decay, $1.95. Favorite Mikes, $2.35.

C. C. U., Monogram Valencias, $2.80.

PHILADELPHIA, JULY 10.

Market is steady.

S. S. Fr. Ex., S. S. Valencias, $2.85, S. S. Valencias, $2.50.

Riv. Fr. Ex., Red Mountain, 10 per cent decay, $1.50.

NEW YORK, JULY 13.

Market is strong.

C. C. U., Lindsay, Mariposa Valencias, $3.15. Misseltoe Valencias, $2.80.

Riv. Fr. Ex., Blue Globe seeds, 15 per cent decay, $1.65.

C. C. U., San Marino, Titus seeds, 20 per cent decay, $1.10.

C. C. U., Redlands, Blossom Valencias, $2.50. Sunflower Mikes, $3.15.

PHILADELPHIA, JULY 13.

Market weak.

C. C. U., Riv., Turquoise seeds, 20 per cent decay, $1.15.

S. B. Co. Fr. Ex., Tallyho sweets, $2.25.

C. C. U., Lindsay, Monogram Valencias, $2.85.

C. C. U., Lindsay, Miseltoe Valencias, $2.15.

Riv. Fr. Ex., Blue Globe sweets, $2.00. Red Globe sweets, 5 per cent decay, $1.55.

PITTSBURG, JULY 13.

Market steady.

C. C. U., Covina, Marguerite Mikes, $2.85. Marguerite Valencias, $2.90. Sapphire lemons, $2.10.

O. K. Fr. Ex., Owl Valencias, $2.65.

Riv. Fr. Ex., U. S. seeds, $2.55. Fiesta Valencias, $3.00. Orchard run Jaffas, 15 per cent decay, $2.10.

BOSTON, JULY 13.

Market is weak.

C. C. U., Riverside, Turquoise, 15 per cent decay, $1.60.

C. C. U., Pomona, Peacock Mikes, 7 per cent decay, $2.25.

C. C. U., Riverside, Turquoise sweets, $2.05. Monogram sweets, $1.90. Turquoise seeds, $2.25.

NEW ORLEANS, JULY 13.

S. S. Fr. Ex., S. S. sweets, $2.15.

WEATHER AND CROPS.

General Summary.—Nearly normal weather prevailed throughout the state during the week. High winds in portions of the interior caused some damage to standing grain, and several hundred acres of wheat in the Sacramento valley were destroyed by fire. Fogs prevailed in the coast districts. The damage to crops by the wind of the preceding week was overestimated.

The grain crop is being rapidly harvested and stored. Some shipments are being made, but most of the crop will probably go to the warehouses. The yield of wheat and barley in the central and northern sections is somewhat below average, but as harvest progresses the crop in many districts is proving much better than expected a few weeks ago, while some reports show that the yield is nearly average. Late wheat is slowly maturing and a very small crop will be gathered in some places. Wheat, oats and barley in Southern California are yielding the best crops for many years. Hops in the Sonoma valley are menaced by a pest which destroys vine and fruit, and it is probable the crop will be light. Sugar beets and beans were benefited by the cool, foggy nights.

Grapes are in excellent condition in all sections, and the prospect for a heavy yield was never better. Late reports indicate that deciduous fruits were not seriously damaged by wind during the preceding week and that in most sections the yield will be fully average. Apricots are of superior quality and the yield better than expected. Apples will yield heavily. Peaches are ripening slowly. Walnuts will be light. Citrus fruits are in good condition.

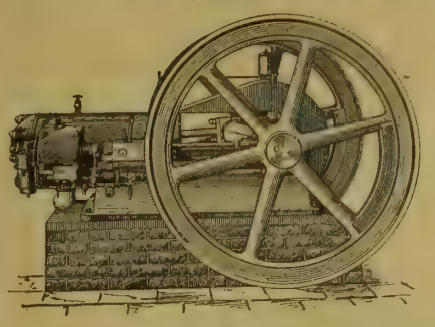
In the Sacramento valley it is learned that last week's estimate of damage by wind to the grain was largely overestimated. Fires in Yolo have destroyed hundreds of acres of grain. Hops doing well and coming into market.

In the bay and northern coast counties sugar beets doing well. Corn good. In Sonoma the hops are infested with the hoplouse, which is seriously injuriig the crop. Damage to fruit by hot winds less than anticipated.

San Joaquin Valley:—Third crop of alfalfa being cut. Wheat good. Fruits in fine condition.

Southern California:—Fine bean crop in Santa Maria section. Apricots ripen slowly. Walunts will be light. Grapes excellent condition. Threshing progressing. Canneries in full operation. Royal apricots nearly all harvested.

"Western Engines"



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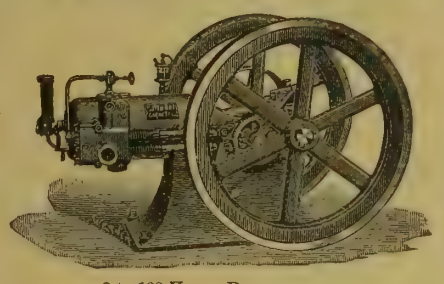

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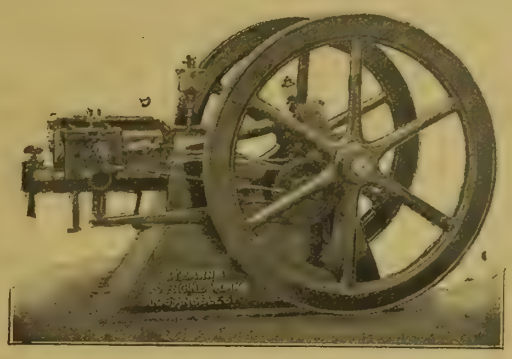

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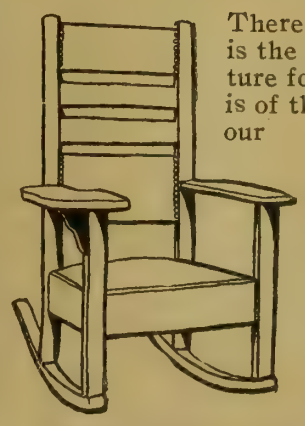

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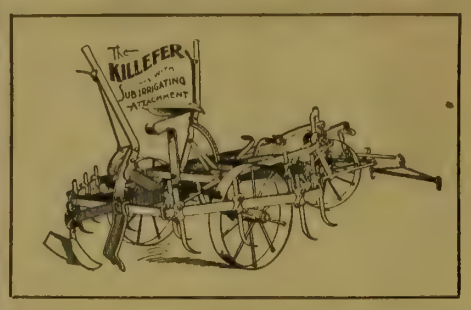

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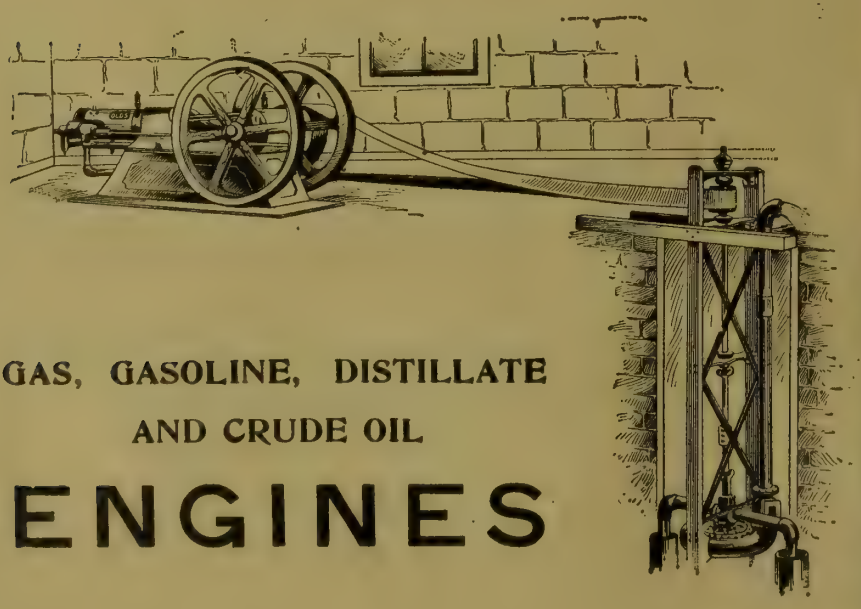

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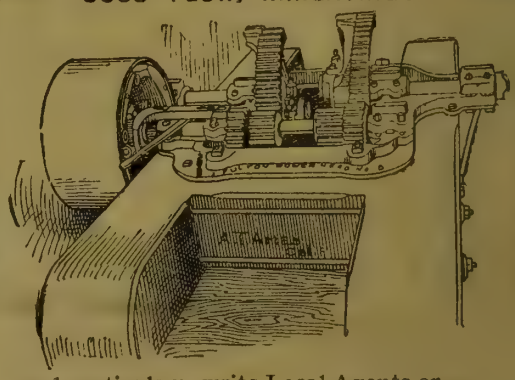

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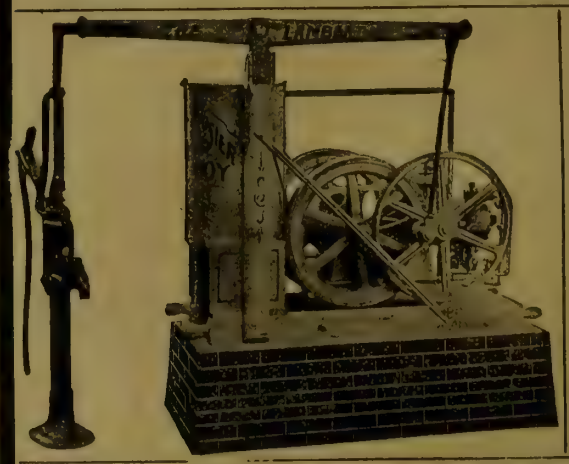

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 4 LOS ANGELES, CAL., FRIDAY, JULY 24, 1903 Subscription $1 a Year

Five 30-Foot Silos of Lynwood Dairy

Comments on Various Feeding Stuffs

Since the writing of the article on "Silo Building," which appeared in last weeks' issue of the Cultivator, a request for more information on feeds has been received. We also have on hand "Feeding of Farm Animals," by Messrs. Jaffa and Anderson, of the State University, published in 1901, from which we quote at length.

First, however, it might be well to refer to alfalfa, which was spoken of in the last issue as being little used for silage. It is, however, well known that the first cutting of alfalfa is always more or less lowered in value by the large amount of foxtail which is necessarily cut with that crop, and in regard to that we note in the last issue of the Dairy and Produce Review, the following:

"We are pleased to learn that one alfalfa dairyman is pleased with his experience in siloing alfalfa. This dairyman is F. B. Marks at Dos Palos, Cal. For four years he has been filling his silo with the first cutting of alfalfa and finds that he gets much more out of it than by curing it for hay. Generally under most California conditions, he says, the first cuttings of alfalfa in the spring are full of foxtail, which matures early and makes a very poor hay on account of the objectionable beards. If the alfalfa is put into the silo this foxtail becomes soft and as appetizing to the herd as the alfalfa. In view of this experience our dairymen might find the silo an important adjunct to their alfalfa fields. Alfalfa is becoming an important food material in hog raising, the green article leaving nothing to be desired as a pork producer, the draw back being to carry them through the season when green alfalfa is not abundantly available. For this purpose it has been found that siloed alfalfa makes an excellent feed and makes it possible to winter brood sows and stock pigs at an extremely small expense, no grain food being necessary. We are just beginning to understand the alfalfa crop."

As to the comparative worth of silage, vegetable and alfalfa, we quote as follows from the above mentioned bulletin:

One of the chief requisites of a ration for profitable milk-production is that it be succulent, by which is meant that a portion of the ration contains a large percentage of water. This watery condition, or succulency, adds to the palatability of the food, and also seems to have a beneficial physical effect upon the animal digestion. The cow, therefore, eats a largr quantity of food, digests and assimilates it more thoroughly, and consequently gives a larger flow of milk. Although the major portion of California does not have the long cold winters to which the eastern states are subject, and where it is an absolute necessity to store large quantities of food, both succulent and dry, still every section of our state has a longer or shorter period during the year when pastures are dry. The provident dairyman, therefore, anticipates these dry months, and either lays in a store of green food beforehand, or has some growing which he may cut and feed to his cattle.

Roots.—Several of the vegetables are valuable in supplying succulence for the ration. Among the root class the one in most common use is the mangel wurtzel beet, because very large quantities can be grown per acre and because it is palatable to all kinds of live stock. Carrots are also used in some sections, and they have the advantage of containing a slightly larger amount of dry matter than mangels. Of all the roots moreover, none are more relished by horses than carrots. Sugar beets are not found profitable to grow for feeding stock, because they yield so small a tonnage in comparison to mangels, and the greater cost of growing and gathering can only be undertaken on the ground of their greater value for sugar. Potatoes contain about twice as much dry matter as mangels and three times as much carbonaceous material. They are, therefore, of greater food value, but, like sugar beets, have too high a commercial value as

(Continuedon page 57)

Improved Methods of Handling Dried Fruits

Of the 150,000,000 pounds of prunes produced on this coast, 90,000,000 to 120,00,000 pounds are produced in the wonderfully fertile section of the Santa Clara Valley. This year's output will exceed 100,000,000 pounds if present estimates are correct, the central and principal shipping point of which is San Jose. There are more or less prunes produced along the coast, even Oregon and Washington having something of an output, which is increased every year. Notwithstanding that, the peculiar adaptability of the soil and climate about San Jose give it such a hold on the industry that there isn't the slightest possibility that its prestige as a prune growing section being disputed for a moment. The soil is of such a nature, and much of it is naturally sub-irrigated, that at one time it was claimed irrigation for prunes was unnecessary in that section. More recent years have developed the fact that much better results of the soil have been achieved through surface irrigation, so today the puff of the gas engine is heard in various parts of the valley.

The method of orchard handling, of pruning, the gathering and curing of the crop, is the same as in other sections of California, but a visit through the packing houses gives a new idea of the magnitude of the prune industry, and enlightens one who has seen prunes grow most of his life in other sections of the state. Of course, the greater part of the curing is done largely in the orchards, and in such cases individual growers store their fruit, but as a rule, the orchards for miles about San Jose ship their products directly to the large storage houses in the city, after sweating, where it is usually stored in large warehouses. Of course, hundreds of carloads are shipped out in sacks, soon after the curing season, but the greater amount is held in these large warehouses, from which it is taken and processed, packed in large boxes and shipped during the following year to all parts of the world.

The packing houses in which this processing is done, give employment to a large number of working people, and add not a little to the growth and prosperity of this bustling city.

As noted before, a visit to these houses is a little education in itself to one who has never been through them. It was the pleasure of a "Cultivator" representative recently to visit several of these houses in company with H. M. Barngrover, manager of the Ernst Luehning Co., and witness the manner of handling the fruit from the bins to placing in the cars. The most interesting feature naturally was the labor saving machine, which permits a maximum amount of fruit to pass through the house with a minimum of labor.

If the storage bins are on the first floor, the endless chain elevator carries it to the upper floors where the process begins. From stage to stage it is carried to the different tables or machines by gravity or by carriers, according to the necessity. The first procedure is the shoveling of the prunes from the bin, with their hard dried skins, and some of them white with sugar which has exuded. They are shoveled in a hopper, on a level with the floor, which drops the prunes onto the carrier elevating them possibly two or three floors, and deposited on the table of the grader.

As they pass over the screens on this machine they are separated into their various sizes from 30-40s to 100-120s. From this they are again placed in piles until ready for packing in twelve and a half, twenty-five or fifty pound boxes.

Next step is to pass them through the processor, which is a propeller passing them through boiling water. This machine is provided with means for introducing steam to the inner part of the drum, through which the fruit is compelled to pass. It is perhaps a couple of feet in diameter and twelve or fourteen feet long. The time in which the fruit is kept in its progress through the drum is under the control of the operator, and varies according to the size and condition of the fruit. Approximately, three to four minutes is the time, and as may readily be seen, this great heat brings the fruit out practically cooked to the center.

Contrary to the usual idea, these are not placed on trays and redried, but are instantly placed in shipping boxes which may be of capacity to hold twelve and a half, twenty-five or fifty pounds. The larger sizes are usually placed in smaller boxes for the more exclusive trade. These boxes are lined with paper, that part which goes over the top being pinked and ornamented so as to make an attrac-

A Prune Grader in the Ernst Luehning Company's Packing House. A Typical Packing House.

(Continued on Page 55.)

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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Friday, July 24, 1903

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Eight thousand two hundred copies of the Cultivator will be mailed to subscribers this week. And still we grow. Last week we made a net gain in circulation of 115, and this week the net gain is 123 copies. Not bad for summer time, we think. At this rate of growth our list will soon reach the 9,000 mark.

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Prof. Cook is equally as ready and capable in a line of practical farm science.

J. W. Mills, at the head of the Pomona experimental station, is dealing every day with practical questions which enables him to give the best of answers to questions regarding deciduous fruits, vines, etc.

John Isaac, clerk to the commissioner of agriculture, will give information regarding conditions in the northern end of the state.

Mrs. Basley understands poultry in all its features, and is giving much help to subscribers of the Cultivator who have been sending her inquiries.

Send in questions to these writers, or if along other lines than these deal with, send directly to this office, and we will answer them if they are answerable.

State Quarantine Officer A. Craw reports that the brown apricot scale which afflicts prune trees has been pretty effectually got under control in the bay counties. This has been accomplished by that little parasite, Comys fusca.

MORE CO-OPERATION.

Nearly every week it is our pleasure to announce some new movement along the co-operative line, which shows that co-operation is extending its work in all departments of agriculture.

Some time ago we noted in these columns that one reason why milk which brought the farmer 2 or 3 cents a quart, was sold to customers in the city at 6 to 10 cents per quart, and gave as an illustration that an observer in a large apartment house had seen seven different milkmen deliver milk to one house in the morning, and that, to a certain extent, has been the plan of some of the dairies about Los Angeles.

plan of some of the dairies about Los

Some months ago a couple of the largest dairies of this city, viz., those of C. H. Sessions and Geo. E. Platt combined and have secured a vastly more economical distribution of milk by that means. For the last few months other dairymen, taking in nearly all besides the Belle-Vernon Farms Company, have united and now have an organization which aims to distribute products of the dairy far more economically than was done before. They have formed a corporation of which Horace G. Hamilton is president; J. O. Sullivan, vice-president; S. E. Lawrence, secretary, and H. J. Woollacott, treasurer.

In addition to the first three named, the other directors are J. L. Starr, T. S. Hamilton, E. T. O'Sullivan and Frank M. Lynch.

These gentlemen and some others of the association will still control and manage independently their own farm and dairy. But each will deliver his own milk to the distributing house, which is on San Pedro street, between Eleventh and Twelfth. The new company is called the Glenn Holly Dairy, and has erected a very fine plant, covering several lots, in extent 160 by 358 feet. On this tract has been erected a building for receiving and distributing which is cement floored and will be provided with all appliances for cleansing cans, sterilizing, etc. In front will be the offices and in back of the receiving room will be the cleansing room, closets for the workmen, harness cleaning rooms, etc. On the side are the sheds, in which the distributing wagons will receive the milk, and on the back of the lots are stables for thirty-two horses, with room for another stable of like size.

The products of seven large dairies will be received and distributed every morning and evening, as will some smaller dairies, which as a matter of accommodation, may also put their milk through this concern, and this means the produce of 800 to 1000 cows.

Pres. Hamilton, who is likewise manager, informed the "Cultivator" of the saving in expense of distributing from better appliances, and economy in purchasing in all will allow them to distribute milk for much less than it cost before. In fact the saving is going to be far in excess of their first anticipations.

Verily co-operation is winning in new lines each day. We hope later to give a more extended notice of the arrangements of this concern.

LECTURES ON FORESTRY.

On Wednesday of next week, July 29, will begin the series of lectures on Forestry, at Idylwild, above San Jacinto, Riverside county. The lectures will continue for two weeks—until August 10. There will not only be lectures but practical field work, botanizing trips, etc.

A tuition of $6 will be required, which entitles the student to admission to all of the lectures and to join in all field work of the class.

There are few subjects of more vital importance to the people of California than a full understanding and appreciation of the principles underlying rational and systematic Forestry. The beneficial influence of forests in conserving the seasonal rainfall, and hence the importance of maintaining forest covers upon mountain slopes, are now fully recognized the world over.

The lectures will be divided into six several topics, as follows:

Life-history of a Tree: Four lectures on the activities, structure, and methods of reproduction of a typcial forest tree.

Classification of Forest Trees: Three lectures on the classes of forest trees and their salient peculiarities.

Forests of California: Three lectures on the forest regions of California, their composition and relation to altitude, rainfall and temperature.

The foregoing all by Dr. Willis L. Jepson of the department of botany of the State University.

The Practice of Forestry: Four lectures on the general principles and fundamentals of forestry.

Silviculture: Four lectures on silvicultural methods, natural and artificial regeneration of forests, propagation, planting and thinning.

Afforestation and Reforestation: Two lectures on the treatment of barren or cut over areas, with special reference to conditions in California.

These lectures by Prof. Arnold V. Stubenrauch of the department of agriculture of the university.

MUTUAL INSURANCE.

The annual meeting of the California Association of the Farmers' Mutual Insurance Companies was held last week at Fresno. The various county associations appointed delegates, but not a great number were able to attend. Notwithstanding, there was much interest manifested and the feeling prevailed that mutual insurance as established in California is here to stay. The success of these associations has not been specially startling, although the growth has been so continuous and the slight losses have made the cost to members so exceedingly light that the gospel of co-operation will be extended by the results of the associations now in existence. Secretary Cromer of the Los Angeles County Association spoke and in his remarks said:

There are over 2000 mutual fire insurance companies in the United States, and they are growing rapidly. There have been twelve companies organized in California since 1897. Insurance in the hands of large stock companies has been subverted from its true mission, and has become a means for amassing great wealth for capitalists and salaried officers, exacting from the insured, as statistics will show, premiums at least double the sum paid for actual losses.

Speaking of the Los Angeles Mutual, the secretary said after four years' organization the losses amounted to only $600, only one assessment was made, and there is in the treasury $3500. The membership is 1100 and the property insured aggregates $1,000,000.

Other papers and discussions which will aid in extending information as to the benefits of the co-operative insurance were features on the program. Pres. Sorensen of Fresno county companies reported one-half million insurance prevailing in that association. Sec. Cromer of Los Angeles reported one and a quarter million insurance in force. This insurance in Los Angeles county has been carried at such a low cost to the members of the company, and under the law the buildings which may be insured are such that the cost must necessarily remain low, that present members are carrying their insurance for almost nothing.

Election of officers resulted in the re-election of the old ones, who are: F. E. Kellogg of Goleta, president; N. G. Nelson of Kingsburg, vice-president; G. F. Cromer of Los Angeles, secretary and treasurer.

PACIFIC COAST ADVERTISERS.

The Cultivator has taken a step during the past week which is new in its history and contrary to that of most of the newspapers on this coast, but which it believes for its best interest and the best interest of its advertisers.

Heretofore the Cultivator, and most other papers here, allowed commissions to advertising agencies for all business passing through their hands. This has at times proved satisfactory, at other times quite the reverse. There has been more misunderstanding and more loss of business through this dealing with a third party than the gain has seemed to warrant, hence the decision to deal directly with our Coast patrons.

We have determined to make the paper of more value than ever to both subscriber and to advertiser and this is our reason for this step, and not any desire to make war upon the agencies which have given business to the Cultivator in the past.

FROM A BUSINESS STANDPOINT

By J. W. JEFFREY, Los Angeles

SANTA CLARA SELLING AGENCY.

The various co-operative fruit unions of Santa Clara county, at a recent meeting held at the headquarters of the Farmers' Club at San Jose, started a movement that will find them fully within the class of producers who market their own products. In fact much progress has already been made to that end. The new organization will be known as the Santa Clara County Fruit Agency, and its plan of operations are in the main similar to that adopted by the California Fruit Agency last March. As everything concerning the selling of fruit is of particular interest at this time of the year, when reorganization is beginning to attract attention, the Cultivator presents the articles of agreement between the co-operative organizations and the proposed fruit agency. It will be of value to the northern readers of this journal as well:

"Do by these presents create the organization known as the Santa Clara County Dried Fruit Agency, for the purpose of selling the products of those uniting in this organization, and transacting such other business as may be assigned to it. Other associations, corporations, firms or individuals may be admitted to this agency, and fruit may be sold for associations, corporations or individuals by the assent of three-fourths of the Board of Control.

"Each organization shall operate as a packer, and shall prepare its product for market in such manner and under such brands as each shall decide. All grading of fruit shall be determined by the Board of Control. Fruit sold through this agency shall by brand indicate where grown.

"This agency shall be managed by a Board of Control, consisting of one representative from each organization, now or hereafter becoming parties to this contract, which representative shall hold office during the pleasure of the organization which he represents.

"By the word organization as used in this contract is meant any member of this association.

"The Board of Control shall elect a manager, who shall not be a member of said board, and shall fix his compensation. He must be elected by a two-thirds vote of the board present at the time of his election. The manager shall be the general executive officer and shall conduct all business and handle all funds under the direction of the Board of Control, and shall give such bond for the faithful performance of his duties as the Board of Control shall determine.

"He must agree on accepting employment from said board not to deal for himself directly or indirectly in any of the products sold by this agency, and he must devote his entire time to the business of the agency.

"No member of the Board of Control can be elected to hold any position to which any compensation is attached, except as hereinafter provided.

"All officers shall hold office at the pleasure of the Board of Control.

"Meetings of the Board of Control shall be held quarterly and the date of the meeting shall be fixed by the Board of Control. A majority shall constitute a quorum for the transaction of business. Special meetings may be held on the call of the president or any three members of the Board of Control, two days' notice thereof being given to each member, notices to be sent by mail.

"Each member of the Board of Control shall receive a fee of two dollars and a half ($2.50) for each meeting that he attends.

"The Executive Committee shall meet once a month and oftener at the call of the chair.

"Each member of the Executive Committee shall receive a fee of two dollars and a half ($2.50) for each and every meeting that he attends.

"The Board of Control shall establish agencies and conduct business for the sale of fruits and shall take such steps toward advertising and making

known the value of our fruit as a food product as they shall deem proper. The Board of Control shall arrange for the purchase of supplies at wholesale, and furnish the same to members when desired, at cost.

"This organization being perfected, the several organizations hereinbefore named shall make and constitute it the sole agency and means of sale and disposition of their entire product, by means of the contract hereto annexed.

"It is also agreed that the foregoing conditions become a part and parcel of the following contract, to be signed by the several organizations:

Next week we shall present the form of contract by which the growers assign their fruit to the agency. Herein will be found a wide difference from the contract with the citrus growers with the California Fruit Agency.

SEASIDE INSTITUTE.

The following is the program for the Farmers' Institute to be held all of next week at Long Beach. All sessions will be in the Congregational Church. Free camping privileges are to be granted with free water. This is expected to draw large numbers who will drive a distance of forty to fifty miles with camp equipage.

In addition to the following, there will be the best of music, and an invocation will open nearly all sessions. The afternoon and evening sessions will also devote some time to question box and answers by the conductor, Prof. Cook.

PROGRAM.

Monday, July 27, 9 a. m.
Address of Welcome, J. A. Miller.
Response, A. J. Cook, Claremont.
Distillate Spray or Fumigation, R. C. Allen, Bonita.
Insects (practical), A. J. Cook.
Plants (practical), A. J. McClatchie, Arizona, Experiment Station.

Afternoon, 2 o' clock.
Chemistry for the Ranch, L. H. Loughridge, University, Cal., Berkeley.
Quarantine against Insects, Alexander Craw, San Francisco.
The Dairy Cow and the Dairy, Mrs. Minnie E. Sherman, Fresno.

Evening, 7:30 o'clock.
Floriculture, Ernest Braunton, Los Angeles.
The Horticultural Commission, J. W. Jeffrey, Los Angeles; S. A. Pease, San Bernardino; E. L. Koethen, Riverside.
Insects (practical), A. J. Cook,

Tuesday, 9 a. m.
Plants (practical), A. J. McClatchie,

Afternoon, 2 o'clock.
Chemistry for the Ranch, L. H. Loughridge.
Floriculture, Ernest Braunton,
Shall we extend our citrus groves? N. W. Blanchard, Santa Paula.
The Dairy Cow and the Dairy, Mrs. Minnie E. Sherman, Fresno.

Evening, 7: 30.
Care in Handling Citrus Fruit, C. C. Chapman, Fullerton.
Our State Agricultural Department and the Rancher, J. H. Reed, Riverside.

Wednesday 9 a. m.
Insects (practical), A. J. Cook,
Foreign Markets, Thomas Stone, Pasadena.
Co-operation, J. S. Edwards, Redlands.
Plants (practical), A. J. McClatchie.

Afternoon, 2 o'clock.
Chemistry for the Ranch, L. H. Loughridge.
Marketing Our Fruit, A. H. Naftzger, Los Angeles.
The Dairy Cow and the Dairy, Mrs. Minnie E. Sherman, Fresno.

Evening, 7:30 o'clock.
Floriculture, Ernest Braunton,
Frost Protection, Dr. E. W. Reid, Ioamosa.
The Farmers' Vegetable Garden, F. Kahles, Montecito.
Experiment Station Work, A. J. McClatchie.

Thursday, 9: a. m.
Insects (practical), A. J. Cook,
Successful Grape Culture, Mrs. Minnie E. Sherman, Fresno.
Plants (practical), A. J. McClatchie.

Afternoon, 2 o'clock.
Chemistry For the Ranch, L. H. Loughridge.
What Civic Pride Should Do for Us, Mrs. L. F. Darling, Riverside.
Food Adulteration, Hon. Elwood Cooper, Santa Barbara.
The Dairy Cow and the Dairy, Mrs. Minnie Sherman, Fresno.

Evening Session, 7:30 o'clock.
Floriculture, Ernest Braunton.
Direct Primaries, Hon. Edward M. Camp, Los Angeles.
Legislation, A. J. Cook, Claremont.

Friday, 9:00 a. m.
Insects (practical) A. J. Cook,
Bacteria and the Rancher, Roy K. Bishop, Orange.
Plants (practical), A. J. McClatchie.

Afternoon, 2:00 o'clock.
Chemistry for the Ranch, L. H. Loughridge.
Microbe Diseases, Dr. V. A. Moore, Cornell University, Ithica, New York.
The Dairy Cow and the Dairy, Mrs. Minnie E. Sherman.

Evening, 7:30 o'clock.
Floriculture, Ernest Braunton.
Cattle Diseases, Dr. A. R. Ward, University Cal., Berkeley.
Livestock and the Dairy, Prof. Leroy Anderson, San Luis Obispo.

Saturday, 9:00 a. m.
Insects (practical), A. J. Cook,
Farm Organizations, Prof. C. B. Sumner, Claremont.
Plants (practical), A. J. McClatchie.

Afternoon, 2:00 o'clock.
Chemistry for the Ranch, L. H. Loughridge.
Fertilizizng the Orchard, Frank L. Palmer, North Pomona.
The Dairy Cow and the Dairy, Mrs. Minnie E. Sherman.

Evening Session, 7:30 o'clock.
Floriculture, Ernest Braunton.
Education, Dr. Geo. A. Gates, Claremont.
Direct Legislation, C D. Willard, Secretary Municipal League, Los Angeles.

KILLING SQUIRRELS.

The San Jose Mercury takes exception to the statement made by Prof. Cook, that poisoning is more effective than carbon bi-sulphide as a means of getting rid of the pest of brown squirrels. After quoting the Professor's remarks made in the "Cultivator" of three weeks ago, the Mercury says:

Professor Cook's estimate of the value of bisulphide of carbon as a squirrel exterminator will not be endorsed by the orchardists and farmers of the foothill districts of this county, who regard bisulphide of carbon as by long odds the best squirrel antidote they have ever used and one which they believe it will be hard to improve upon. Properly applied at the proper season of the year, it will kill ninety per cent on once going over a field, and the second application will kill all that are left.

This is not the experience of one man, but of hundreds in Santa Clara valley. It is not essential that the ground be wet; if it is moist enough to plow well it will answer every requirement. Broadly speaking, the season for using the carbon effectively is from the first general rain to May 1st.

The most approved method is to apply it by means of a pump made expressly for that purpose. This consists of a galvanized iron cylinder with a hand bellows attachment, by means of which the carbon fumes are forced through about three feet of hose directly into the squirrels' holes. After the hose is inserted into the hole, dirt is tramped (with the foot) around it; from twenty-five to forty strokes are given on the bellows, the hose is withdrawn and the opening left is also closed and tamped.

The expense of clearing land of squirrels by this method, including labor, will not exceed $1 an acre, and it is frequently done for half that amount.

Those who do not care to invest in the pump can obtain almost as good results by tearing rags into strips and winding them into balls about the size of a hen's egg. Saturate the balls in the bisulphide, lift them out with a pair of tweezers, apply a match and roll them down the hole, which must be filled as rapidly as possible. The tweezers or pincers are necessary to avoid burning the fingers, as the gas generated is highly combustible.

The same treatment is equally good in exterminating gophers or any burrowing animal.

The Agricultural Department has issued a highly valuable bulletin describing the various kinds of scale and pests that afflict fruit trees and the remedies for their extermination. Fruit raisers may write to the secretary at Washington and receive Farmers' Bulletin No. 172. It is sent out free.

Coast News and Notes

By R. A. Dague, 1045 Regent St., Alameda

Potatoes are reported as doing finely in Alameda county.

Six bee men in the vicinity of Pomona own 5050 colonies.

The lice have seriously damaged the hop vines in the Sonoma valley.

Apricots are selling to the canneries at Niles for $30 and Bartlett pears at $25.

The Board of Supervisors of Alameda county has appropriated $10,000 for the St. Louis Exposition.

There will not be many apricots dried this year at Niles. The crop is being shipped East or canned.

The third spraying for the codling moth has been completed in the Pajaro district, Santa Cruz county.

There seems to be a movement in Central California in favored section in favor of planting orange and lemon orchards.

At the last weekly sale of Santa Rosa forty-five cases of eggs were sold to San Francisco parties for 24¼ cents per dozen.

The potato market in Central California has recently taken a spurt upwards; caused by a lively demand for Burbanks for seed.

The ranchers in the vicinity of Stockton are dissatisfied with the present prices of hay and are holding in anticipation of better prices.

It is said that not more than 70,000 sacks of the 500,000 of beans raised in Ventura county are on hand and they are being rapidly disposed of.

The condensed cream factory at Visalia is this year doing a large business. They frequently send into San Francisco a car load of their products.

The Best Manufacturing Works of San Leandro have just sent into the Sacramento valley one of the big combined harvesters with a traction engine.

Joseph Saccone, near Oroville, has one black fig tree 18 years old, from which he picked and shipped 65 boxes of ripe figs, each box averaging 15 pounds.

Santa Rosans are very proud of the performance of the mare Lou Dillin on the eastern track. She is the fastest mare in the world, going a mile in 2:02¼.

The tomato crop of the state is not up to the average. Early in the season contracts were closed at $7 per ton. Canneries are now ready to contract at a higher price.

Hunt Brothers cannery at Haywards has finished their pack of cherries. They are now running on pears, plums and peaches. The tomato crop is not promising.

S. V. Ryland, an ex-tobacco grower in the south, has been looking over California and says the business could be made very profitable in many localities of this state.

Horticulturists of Marin county recently held a meeting and organized a branch of the State Horticultural Alliance. Delegations from San Francisco and Oakland attended.

Luther Burbank is to have some recognition because of his great service. The general government will recompense him and provide him hereafter with a scientific assistant.

There will be a state convention of wine manufacturers and grape growers held at St. Helena, Cal., on August 15. A general attendance is desired by those who are promoting the call.

The San Jacinto Cannery Co. is now in full operation with 75 hands. Superintendent Joseph Wallace estimates that about $75,000 will be paid out for labor and fruit in and around that place.

There are now 278 acres of young tomato plants growing within a radius of four miles of Yuba City. It is estimated that they will furnish material for 100,000 cases of canned goods.

San Francisco is about to begin the erection of a Polytechnic High School building to cost $375,000, where students can be taught farming, carpentering, cooking, sewing and other useful things beside foot-ball.

Shipments to the East of late Crawford peaches is just beginning. Bartlett pears are going forward daily. California fruits are selling at fancy prices in eastern markets. It brings an average of about $1000 per car.

The yield of honey in California in 1899 was 3,677,729 pounds in 1900, 2,208,000 pounds, in 1901 4,600,000. The counties of Fresno, Tulare and San Diego led in the production. Ventura county will be lighter than usual.

For many years it was said that Southern California persistently advertised its attractions while Central California did not. A change is taking place. There is a movement all along the line to advertise this part of the state.

The Earl Fruit Company shipped eight full cars of fruit from Sacramento to London, England, last week. While crossing the Atlantic it was kept at a temperature of 36 degrees. The value of the fruit was placed at $15,000.

The state fish commissioners have now for distribution 100,000 young rainbow trout. Commissioner Vogelsang says that the Siskiyou hatchery will furnish enough young trout this season for all the streams north of San Bernardino county.

J. A. Anderson, of Lodi, claims that the inspectors in some parts of the county are neglecting their duty. He says: "I visited some fifteen or twenty orchards and found none that had complied with the law, yet this fruit was being packed and shipped."

At the last meeting of the State Board of Trade, J. A. Filcher made a report of crop prospects. From it we note hay turns out to be a good crop. Apricots and walnuts which promised but half crops in May have turned out to be much better than expected.

After an exhaustive inquiry into the hop situation in Sonoma county L. D. Jacks reports that the yield this year will not exceed 10,000 bales. He says reports from Oregon are to the effect that that state will not produce over 70,000 bales. The hop louse has seriously injured the vines.

Parties that have tried it say that a liberal and persistent use of oranges will cure the whisky habit. One reformed inebriate said every time the maddening desire for whisky came he would start right in and begin to eat oranges and continue to eat them as long as the appetite for whisky lasted, frequently consuming fifteen or twenty oranges a day. The acid quality of the oranges appeased the desire for alcohol. What a magnificent outlet for culls.

The State Board of Agriculture has decided to deed its state fair ground property in Sacramento to the state, conditional upon the payment of $45,000 which is appropriated by the last legislature. This will result in throwing the entire management of the state fair into hands which will probably give us more of an agricultural fair than we have heretofore had. Some features not pertaining to agriculture will be abolished, and others very materially reduced. If these hopes are realized it is probable the state fair will be a benefit to horticulture and agriculture of the state. If this is not done the producing class should raise up and demand a closing of the institution under state recognition, at least, which in the past has been anything but encouraging to agriculture.

WELL PLEASED.

J. T. Davis, the Pomona Poultryman, whose ad of Black and White Minorcas, Barred and White Rocks and Leghorns has appeared so long, writes:

California Cultivator, Los Angeles, California.

Gentlemen: Please find my check in payment for my ad in the Cultivator. Please drop ad out until further notice as I have sold my property here where my yards were located and will have to make some changes before I will be in shape for doing much business in this line. But I must say that I am well pleased with the results from my ad in the Cultivator this season and that I expect to continue to advertise in the Cultivator as soon as I get shaped for business. Yours respectfully, J. T. Davis.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

(Continued.)

In our journey through the insect realm, we have discussed those often called insects, but which are not; the water breathing crustacea, with the familiar crayfish and the very common sow bugs, which rest beneath nearly every damp board in California; the class Myriapoda, with their indefinite number of legs, the great eight-legged or spider group, with the tiny, though destructive mites and ticks, the scorpion group and the beneficial spiders, and we are just peering in to the real insects, which we found always had six legs when they were mature, three well marked parts of the body, head, thorax and abdomen, and which pass through perhaps the most wonderful transformations of any of the great swarms of animal life.

* * *

Head Organs.—The head organs of insects consist of the eyes, both simple and compound, the antennae and the mouth organs. As before stated, the eyes are both simple and compound. The compound eyes are made up of a great number of simple eyes in close contact, so they look like miniature honey comb, as the simple eyes are usually six-sided. Wee use our two eyes as one, and so we see about as well if we close one of our eyes. Not so with these compound eyes of insects. Each eye has its special image, and so if any one of these simple eyes were gone, there would be a blank in the object which was being viewed by the insect. The simple eyes are structurally like the compound eyes. There may be one, two or three, though in many cases there are none at all. Just what the function of these two kinds of eyes is, no one knows. It is probable that many insects are quite keen in sight, and are quick to distinguish colors. We know that no insects are valuable in flower pollenation. It is probable that the color of the flowers is simply to attract the insects that they may perform this valuable service.

The antennae are the horn-like organs which reach out from the head of each insect. When I say that these are really the smell organs, we at once understand their importance, and see why they are so common in this great branch of Arthropoda. Insects, like bees, that are often attracted to flowers by odor, have very well developed and complex antennae. Many insects, on the other hand, like large numbers of bugs and many of the lace winged flies, like the dragon flies, have very short antennae. It is probable that the male is often attracted to the female by odor, in which case we find that they have antennae remarkably developed. This is true of many of the moths like the silk moths, and also of the male bee. The minute structure of the antennae shows numerous pits with pegs protruding from the bottom. The number of these pits or holes and the attending pegs are often very numerous, in which case we may be sure that the insect has a wonderfully developed sense of smell. As an illustration of the delicacy of sensitiveness of this sense we have well recorded examples of male moths being attracted by the emergence of a single female. I have known a female to come out in a room and a single window many feet distant ajar but two or three inches and yet a half hundred males came into the room in the late afternoon. Male moths have been known to come down chimneys through a stove pipe and the stove and out of the damper under similar circumstances. Indeed, I once saw a great number of these males outside a closed window and upon examination, found a female moth just from the cocoon inside the room.

The mouth organs are quite complex in nearly all insects. Insects may be classed in two different groups because of the character of these mouth organs. First are the biting insects, or Mandibulate insects, as they are called. These have what we call typical mouth parts. All such insects bite and so eat up whatever food they may require. I will briefly describe these organs. We may say that there is an upper and a lower lip. The upper lip, called labrum, in form and position is not unlike the fore piece of a cap, so it is quite simple. Opposite this, forming the floor of the mouth is the lower lip, or labium. The back of this might be called the chin and is called the mentum, while the front part is known as the ligula. On each side of this lower lip is a jointed organ known as the labial palpus. The sides of the mouth are made up of two double organs. The upper pair consists of the mandibles. These are the strong jaws, which enables the locust to strip the hard bark off from large twigs, enables the grub to bore through hardest wood, and makes it possible for caterpillar and beetle to devour leaves and even quite heavy twigs of plants. These mandibles or jaws work side-wise; and so each is a simple organ and may itself be armed with minute teeth. Just below these are the second jaws or maxilae. These always move sidewise but are far from simple. Indeed they are usually composed of several parts. Almost always three parts in line from base to tip, with other longer jointed organs on the sides known as maxillary palpi. We find these typical mouth organs in all laced wings like dragon flies, white ants and ant lions; all of the locust group, all beetles, including the grubs, all caterpillars, and in all of the highest order, bees, wasps, ants, etc. As I have stated, all these insects can bite and eat, hence these, and these alone, can be killed by putting Paris green into or on their food. Thus we poison caterpillars, grubs and beetles by the use of poisonous sprays, and locusts by a poison bran mash, which is made palatable by adding some sweets.

The second group is made up of those insects that suck rather than eat, and so we may say they have modified mouth parts. They are also known as haustellate insects, and are also sometimes referred to as suctatorial insects. In all these cases the mouth organs are converted into sucking tubes and thus they pierce plant or animal and suck the juice or blood. It is easy to see that these could not be killed by putting poison on to the affected plant. This is why we never can kill bugs, plant lice or scale insects by use of the arsenites. In all theese insects some of the mouth parts are wanting. Thus the bugs have no palpi at all. The two winged flies are without the labial palpi and the butterflies and moths usually have only the labial palpi, though in the lowest family we also find maxillary palpi. Their long sucking tube consists of the two maxillae, each of which is grooved, and as they are placed side by side, they form the long tubular tongue or sucking tube. The imago diptera, or two-winged flies, and also the mature bugs, form a tube by placing their organs side by side, though this tube is largely formed by the labium or lower lip, which is a grooved organ. As already suggested, the bug in all stages, the two-winged flies, and the moths and butterfly, when mature, are illustrations of these haustellate insects.

I was glad to see the little editorial in the last Cultivator urging the young people to watch and study insects, to read carefully these articles, and thus look into this wonderful page of natural history. There are several young people around Claremont who are making fine collections of insects and are taking great pleasure in the work and study. They are gaining far more than pleasure. A habit of observation and a valuable discipline which will aid them much in life's work. Any boy or girl, or any of the older boys and girls, the orchardists, by looking at the mouth parts of a locust or beetle may be able, especially by the aid of a good lens, to make out all the parts described above. I cannot say too much for this habit of observation and study among the great hosts of insects that so crowd about us in our walks in the brushwood and through the canyons.

(Continued in our next.)

* * *

FULLER'S ROSE BEETLE IN A NEW ROLE OF MISCHIEF.

It was my great pleasure last Saturday to meet with the horticultural commissioners and inspectors at their monthly meeting in Los Angeles. This getting together once a month to report observations and discoveries, to compare notes, and to offer suggestions is certainly a very wise and bright proceeding. I can hardly express my pleasure and satisfaction in this conference and wish it were so I could be with them at each of these monthly meetings.

I was most interested in what I learned from two of the wide-awake inspectors regarding a new enemy of the raspberry and strawberry. Specimens of the insect were brought in and were submitted to me for identification. I at once recognized them as the grubs and pupae of our old and all too common enemy, Fuller's rose weevil. This beetle is known to science as Aramigus fullerii. In the East where attention was first called to it only a few years ago it was called Fuller's rose beetle, because the grubs were discovered as a pest on the roots of the rose by Mr. A. S. Fuller of New York City. So far as I know, the imago in the East is only disturbing as a green-house pest, where it works on the palms and other rather thick-leaved plants. I do not need to say that here the beetle is a grievous pest in the citrus orchards. It usually does not do very much harm except in case of budding over our orchards, when the extent of its mischief is sometimes very formidable. It may, and often does, destroy great numbers of young buds and twigs that grow from them.

I have often wondered since coming to California where the grubs or larvae of these numerous beetles were to be found, and have feared that some day we would wake up to the fact that they were as serious a pest in the larvae stage as in the mature state. Now we find that they exist in great numbers in the strawberry beds of some parts of our country and are equally destructive in the raspberry plantations. Indeed, it was stated that a single spadeful of earth would often contain great numbers of these grubs. They not only bore into the crown of the strawberries and roots of the plants but they also remove the bark from the roots vey extensively. It is reported that they are doing very serious damage. Specimens of both kinds of plants were on exhibition and they showed that the alarm was all too well founded. I am fully persuaded that we have in this Fuller's rose beetle one of our most alarming insect pests. The very fact that its damage is great in both larvae and imago stage may well cause us to wish that it had never invaded our coast. It probably was in California before it was discovered as a mischief-maker in the East and I think there is reason to believe that it came to us from Hawaii. It is not strange that it should work on the roots of rose, strawberry and raspberry, as we know all these plants belong to the same great family Rosaceae. It will not be at all strange if they are also found to work on apple, peach, pear and other plants of this same great natural order. It loks very likely that we may have to take up arms against this pest and strive hard to accomplish his extermination.

It was suggested by one of the inspectors at the meeting Saturday that bi-sulphide of carbon would prove the best remedy. I have no doubt of the correctness of this statement. When the blighting of a plant shows that the insect is at work, a small hole close beside the plant should be made six or seven inches deep by use of cane or iron rod, a tablespoonful or more of the liquid poured in when the earth should be quickly pushed onto the hole and pressed down with the foot. This work can be quickly done, will be sure and effective, and certainly ought not to be neglected. The underground home of the grub and the hard crust of the weevil with its probable short life above ground will tend to make it free from parasite. This makes it all the more necessary that we fight it to the death. It will be remembered that the imago has no wings, and so cannot gain access to the tree top except as it crawls up the trunk. Bandaging these last with cotton or by some trap may enable us to keep the insects from our trees. I have had a great many inquiries this spring regarding blight of raspberries, loganberries, etc.. I have often said I do not believe the trouble to be true blight and have asked if the roots of the plant have been examined. I believe we many have the explanation in this Fuller's rose beetle. I hope to have illustrations in time for this article. If not I shall illustrate it very soon. The importance of the insect more than warrants it.

* * *

LA HABRA INSTITUTE.

There will be a Farmers' Institute held in the La Habra school house on Monday, August 17. This is one of the most beautiful and productive valleys in California. The people are wide awake, and the success of the Institute is assured in its very inception. There will surely be a large attendance as there will be a very excellent program. I passed through the valley the other day, and was as on a previous occasion simply amazed at the great fields of splendid corn grown with no irrigation.

* * *

THE APPLE SCALE.

Last night I received from one of our horticultural inspectors a number of spider nests containing eggs. He thought them to be the cotton of the maple scale, familiar as an enemy to the maple and the grape in the East. While he was mistaken in thinking these to be the scale eggs, he is no doubt right in his statement that apples are suffering very largely about Downey from the work of this scale. I was very familiar with this scale in

the East. It is one of the scales that are always active, and is known to science as Pulvinaria innumerabilus. The scale is found in the spring with a large mass of cotton protruding from its hinder extremity which it raises from the twig. This is full of eggs which are thus well protected. These hatch and work on the leaves till fall, when they pass to the twigs. In the spring they again take to the leaves, become mature, secrete the cotton and lay their eggs. The inspector who sent the specimens says that they are worse on trees which were treated with the lime, salt and sulphur wash in the winter. I wonder if this can be true. I should suppose that this application or the distilliate spray would be efficient remedies against this pest.

California Horticulturally...

John Isaac, Sacramento

TOO MUCH CREDIT FOR AUSTRALIA.

The brown apricot scale, which has been very bad in Sonoma country is disappearing under the work of the Comys fusca, which has been distributed through there for several years and now appears to have taken thorough hold and is doing the work as was expected. The Vedalia cardinalis, which was introduced some years ago for the Cottony cushion scale, has made such a reputation for parasitic and predaceous insects that to the lay mind there must be some sort of Australian bug to destroy all our pests, and we notice that some of the upper country papers state that the scale is disappearing in Sonoma county as the result of the introduction of the Australian fly. The Comys fusca, which is the insect doing the good work is not Australian, nor do all the good things come from Australia .(The Comys fusca is introduced from South Africa.—Ed.)

* * *

THE BLACK SCALE PARASITE AT WORK.

Very encouraging reports are being received by the State Horticultural Commissioner, regarding the work of the Scutellista cyanea, which has been very widely distributed for work on the black scale. A few weeks since a number of letters were received from sections in which these insects had been liberated which were doleful in their statements and more so in their predictions, and it looked as though the new parasite had not come up to expectations in the south, although it has done remarkable work in the north. Lately, however, these reports have changed, and it now appears that the parasites are showing up in great numbers in all the sections where they have been liberated. Mr. Craw is now operating in the southern counties, investigating the work of this and other parasites, and the fruit growing public will await his report with a great deal of interest. As a rule we expect too much from our friends in the insect world. A pest is introduced in a section and it spreads steadily for years until it covers large area. We fight it by artificial means at infinite cost of money and labor, to say nothing of losses of crops, and this may go on for years, yet when its natural enemy is introduced we expect it to clear out the pest that has been years in spreading in a few months. Although these parasites breed with great rapidity and are doing wonderful work, it should be remembered that we have a very large state to cover, and no parasite can be bred out in sufficient numbers in a few months to do the work required of them. From the work we know the Scutellista cyanea has done we believe it to be a wonder, and that it will ultimately overtake the black scale, and this work can be expedited by careful distribution, but if it accomplished all we desire in five years it will have done a wonderful work will be worth many millions of dollars to our state.

SULPHURING FOR RED SPIDER.

Red spider is repotted from some of the almond and prune sections as having shown up quite badly in the past two weeks and as doing some damage in a few places. Its destructiveness does not appear to be so wide spreead this season as usual, and it is confined to more limited areas. The present season has been late, cool and moist, conditions unfavorable to the rapid breeding of this pest, which delights in hot, dry weather, during which it increases enormously and spreads with wonderful rapidity. The common remedy for this spider, and one which has so far given general satisfaction, is dry sulphur, which is now being used in the orchards wihch have shown the spiders in destructive quantities. The California University has experimented with a small admixture of wheat flour, made into a paste, with the sulphur and used in solution. We have not heard to what extent this has been used or the success of it, but in sections where the air is very dry, and it is here that the spider is the worst, it would seem a very rational way of using it. The great object is to get the sulphur to attach to the trees until the heat of the sun can cause fumes, which are deadly to the spider, to arise from it. For this reason the dusting is usually done in the early morning when the trees are supposed to be damp from the dew, which frequently they are not, and a large part of the sulphur falls to the ground. A very small amount of the flour paste mixed with the sulphur, causes it to adhere to the foliage and, it is claimed, gives much better results. In using sulphur it pays to be sure that you have the pure and the proper article. With sulphur only the sublimed, or flowers of sulphur, should be used. This quality will form fumes under the sun's action and accomplish the desired result, while other forms of pulverized sulphur will be of no more use for the purpose than so much fine sand. It is for this reason that there are so many failures in the application of insecticides, a false economy leads the users to get a cheap and worthless article under the impression that he has complied with all necessary requirements and, when failure results, blames the formula. In using sulphur for red spider, be sure to get the best sublimed.

* * *

HELP IN THE FRUIT HARVEST.

The fruit season is now at its height, canneries, packing houses and dryers are all running, and there is now every probability that we shall be able to care for at least the greater part of our fruit crop. With the experience of last season before us it was feared that the shortage of labor would be very severe this season, more severe than last, in fact, and that losses from this cause would be very heavy. As the season advances, however, the indications are that, while we could do with very much more help than we have, and while there will be some losses from lack of help, the damage from this cause will not be so heavy as was anticipated. We are beginning to feel the benefits of the work of the California Promotion Committee which, under the direction of Harry P. Stabler, has done good and effective work during the past year. It is to be hoped that this committee will not be allowed to flag in its labors, but continue to induce reliable workers from the farming sections of the East, where they have been working, to cast their lot with us in California. The condition this season is very much improved, and it is hoped that each succeeding year will see an influx of white workers, until they crowd out the Japs, who are said, by those who have had to rely upon them for help, to be much more undesirable than the Chinese.

The legislature of the Territory of Hawaii has passed an act providing for a Board of Commissioners of Agriculture and Forestry, in which provision is made for a forest policy for the islands. This act provides for a superintendent of the Forest Department, who will have charge of all matters relating to forestry, and will be assisted by a corps of foresters and rangers. The territorial senate has passed a bill which appropriates about $23,500 a year for two years for the Department of Forestry.

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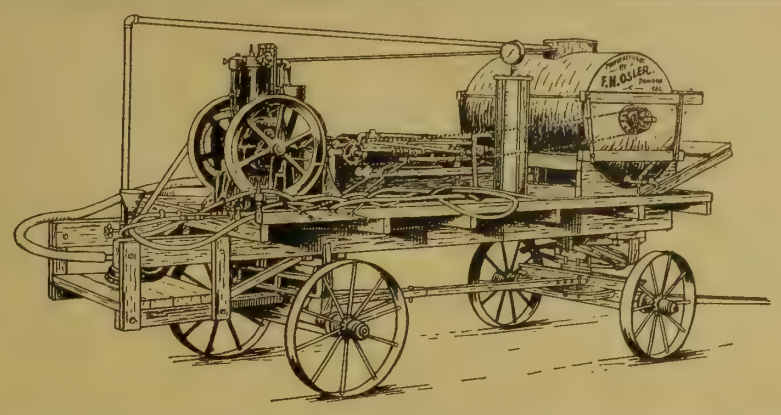

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By J. W. Mills, Ontario, Cal.

THE EARLY GRAPE SECTION.

Editor Cultivator: Could you publish in your paper the date of ripening of the earliest table grape in California? My object is to find out whether grapes ripen earlier at Indio, Coachella, Yuma or Imperial, than they do in the Sacramento or San Joaquin valleys, and if so, how much earlier. Information on this subject will be appreciated by a number of your subscribers. A. M. Aplin, Highlands.

We cannot give dates of ripening of the earliest varieties, but the papers tell us that Flaming Tokays arrived from the Colorado River district about two weeks ago. These grapes were said to be ripe and as delicious as this variety usually is. It must be remembered that Tokay is not an early grape, so we cannot even guess when the earliest varieties would ripen in that locality, neither can we surmise where the earliest locality is, for only a few points in the earliest part of the state have vines growing now. We do not think that any grapes have been growing long enough in Imperial to test that locality. Coachella has been shipping out Thompson's seedless the past few years as an early grape, but they have recently secured varieties that are a month or so earlier than Thompson's seedless. We do not know of grapes maturing earlier than July 10th of this year, in any locality in California. If any of our readers can give us correct information on this subject, we would be glad to receive it. There is one thing settled, and that is Southern California contains the earliest fruit section in America as far as is known.

* * *

DOUBLE ONIONS.

Editor Cultivator: I bought some onion sets last winter, planted them, and instead of one onion growing where I planted one, I have a crop of 3, 4 or 5. Is this peculiar to certain varieties or not? Many went to seed also the first year from planting the small sets. What variety will mature first when planted in the fall or after our first rains? Will an onion set one inch in diameter go to seed more readily than one the size of a pea, both being the same age? Why should the groceryman charge 3 and 4 cents a pound for onions when he pays only one cent to the grower? Please answer through the Cultivator. Amateur, Pasadena.

All onion sets have the making of more than one onion, that is, there are always more than one germ to a bulb. This is shown when we plant the finest onions for seed. When onions are selected for seed growing, the most perfect in shape are selected, but when the seed stalks come up, there are from two to half a dozen to each onion. Under natural conditions, an onion is a bi-ennial. It grows from the seed and makes a big bulb the first year. The next year the bulb produces flowers and seed. If we plant the seed so thick that the bulbs will not mature properly, they make what we call sets. They are simply stunted onions that are not able to make seed in one growing season. If planted early enough in the fall, they will sometimes make two or three growths and then go to seed in the spring. Several periods of growing occasioned by alternate dry and wet spells will encourage this. If the sets are too large they will also have a tendency to go to seed. It is true that a set that is one inch in diameter will go to seed more readily than one the size of a pea. This is because it has stored up enough material in the bulb to make it reasonably safe to make the attempt. We do not make the assertion that plants reason, but it seems that they are endowed with something that makes them act as if they did. Some onion sets will make double onions more readily than others. The seed from which the sets are raised sometimes accounts for that. An uneven supply of moisture might do the same thing. Whenever dry onions sprout, it is the development of all the divisions of the bulb and this takes place always after the bulb has a resting period. This resting period is brought about by withholding the water sometimes, and if the sets are raised from poor seed, the tendency is still greater to duplicate or develop all of the bulbs.

The white Italian varieties of onions mature the quickest. New Queen is the most generally used. This variety also goes under the name of Extra Early Barletta.

The grocerymen pay one cent for onions and sell them for three and four cents, because the growers allow them to. If the fruit and vegetable growers would organize, establish their own fruit stands to do their own local selling direct to the consumer, there would be prosperity among the growers of small fruits and vegetables that has never been seen. We may be wrong on this point. It is a little out of our line. Suppose you ask Mr. Jeffrey to give you an article on that issue.

* * *

SUMMER TREATMENT OF RASPBERRY BUSHES.

Editor Cultivator: Will you please state in your next issue, how I should trim my red raspberry bushes after the present crop is off. The new shoots were all pinched back about the first of June. Any information on the subject will be gladly received.—H. W. H., Gardena.

Pinching back at the time mentioned was correct treatment for the new shoots. That forces out more laterals which increases the bearing surface for next year. As soon as the fruit is off all of the canes which have just borne the crop should be cut out clear down to the ground. All small or weak canes of this summer's growth should be cut out also. This will have a tendency to make the remaining canes to produce finer and handsomer fruit next season. It is also just as important to keep the bushes well irrigated and cultivated from now on as it was before the fruit matured. This is not done sometimes and the result is an inferior lot of berries. We would advise also, that as soon as the old brush is cut out and burned, you spray with Bordeaux mixture. This will prevent to a certain extent the bad effects of fungus that might be present. We are of the opinion that there is considerable of this kind of disease present in this state, though we have not heard much complaint. It is a fact that during the past two or three years the Logan berry vines have not been so prolific as they were previously, and this year there was a greater falling off than ever in the crop. There was every indication of a large crop, but toward the beginning of the last half of the season, the berries dried up on the vines. The leaves also seemed to be affected. We suspect that there is some sort of plant disease at work on them. This will be looked up and we hope, if there is some fungus that is responsible for the loss, that we will be more successful in combating such diseases than the eastern growers have been. They labor under the disadvantage of having a number of well established fungus diseases in their raspberry plantations. When once there, it is almost impossible to get rid of them. Therefore, we advise the use of preventive mthods. Spraying with Bordeaux mixture will prevent the entrance of these diseases. The only effective way of combating some of the diseases of raspberries is to plant on clean ground and be sure that the plants used are entirely free from disease. As another precaution, it is well to try new varieties, say two to four bushes each of some other kinds than you have. It has been observed that Columbian, which is a good red sort, is notably free from raspberry cane-blight, and this variety is being largely substituted for Cuthbert in some districts in the east. Hansell is a good red raspberry, fine color, vigorous, earlier than other varieties and very productive. Malboro is perhaps the largest red raspberry, ripens soon after Hansell, but is not as fine in flavor as the latter or Cuthbert.

The subject of fertilizers for raspberries has never been tested in this state far enough to give any results that are of value. This has been done in the eastern states, but that will not apply with us. However, there can be no mistake in putting on barnyard manure.

* * *

BEST LATE CROP FOR GREEN FEED.

Editor Cultivator: Will you please tell me what would be the best crop to plant at this time for green feed for horses? What would be the best fertilizer for the crop? I also have some space under walnut trees. Could it be utilized? My space is quite limited, so would like to know what I can get the most from by fertilizing. I have plenty of water.—A. J., San Gabriel.

Sorghum will make as rapid a growth as anything that we know of with plenty of water and fertilizer. You need a nitrogenous fertilizer for that. Barnyard manure or nitrate of soda will give the best and quickest results. Either should be applied after the plants are up provided the fertilizer is soaked in with the irrigation water. The seed should be soaked for twelve hours and then sowed at once. When the grain is taken from the water, it should be sifted with dry sand. The sieve should be fine enough to mold the grain and allow the sand to pass through. This will remove the surplus moisture so that the grain will not stick to the hands or machine that sows it. The soaking will insure a perfect stand and a rapid growth from the beginning. Part of your land might be planted to carrots, for they will continue to grow after frosts come and thereby lengthen the season of green feed. Horses are very fond of both sorghum and carrots. The former will fatten horses readily and there is no danger in feeding it. Cured sorghum will sometimes kill cows because they do not chew it thoroughly and the horn like shell of the stalks sometimes injures the stomach and causes inflammation. Horses will not swallow what is not thoroughly ground up. If the soil is fairly rich, there need be no occasion to fertilize the carrots as they will do well with ample irrigation.

We would not advise planting anything under the walnut trees. It will be a money losing proposition all around. The trees should be given every advantage, and as they are in bearing you will find it expensive picking nuts from among a growing crop.

Address all communications to
Dr. H. D. Fenimore, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

By error last week "Actinomycosis was made to read "Actinomy Casis."

ECZEMA.

Dr. Fenimore: Mrs. H. of Wilmington, has a cow which is covered on neck and sides with eruptions of the skin which, when dry, peel off and leave small round bare spots from the size of a nickle down. Otherwise she appears healthy, eats well. What is the cause and the remedy?

Give 1 lb. of Epsom salts, 1 oz. of ginger, ½ oz. of aloes, and 1 dram each of nux vomica and belladonna, dissolved in three parts of water. Follow in two days with a tablespoonful of nitrate of potassium and hyposul phate of soda, equal parts, morning and night. Keep the sores bathed three times a day with a tablespoonful of creoline to a quart of water.

* * *

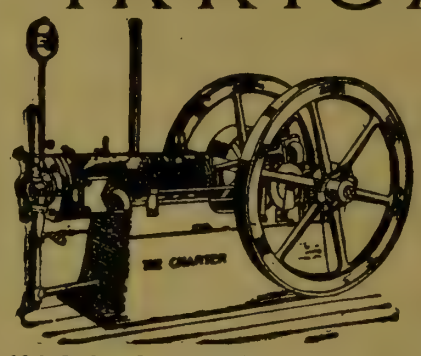
MILK FEVER FOLLOWED BY GARGET.

F. B., of Riverside, has a cow seriously affected with milk fever and garget, which a local veterinary has treated but not affected a cure. The case is serious and cow valuable.

The veterinary surgeon that has been treating the case can advise you best what to do.

San Francisco Board of Health is after the milk reailers on account of selling adulterated milk. Several arrests have been made.

IRRIGATION



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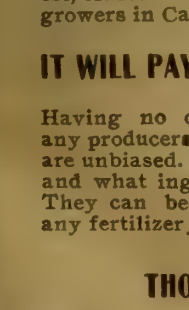

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METHODS OF HANDLING FRUITS

(Continued from first page)

tive looking box. As noted the prunes are deposited in these boxes steaming hot, and still dripping from the boiling water. Each box is weighed and pushed from the weigher over the rollers to the power press, where the attendant forces down the prunes to a level with the top of the box. They were before three or four inches higher than the sides and held in place by extensions. Instantly the ornamental papers are brought over the surface, the automatic carrier taking them, and they are passed to the nailing machine where with the pressure of a foot the attendant instantly releases the clutch of the nailer and the cover is nailed on. The boxes are then taken in charge by the warehouse man, piled high on trucks, and removed immediately to cars, or to some place conveniently near the loading platform.

The largest packing house in San Jose is that of the Santa Clara Valley Fruit Exchange, a co-operative institution which handles from twenty to thirty million pounds of fruit each year. One of the most complete houses and best adapted to economic handling of fruit, principally prunes and apricots, is the new house just completed of the Ernst Luehning Company. A view of this house is given in the cut on first page, as is a cut of the large power grader of the third floor. This building is 72 by 96 feet, has four floors, a capacity of at least 5,000,000 pounds a year, and fitted with modern up-to-date labor saving machines in every department.

The building of machines for this class of work has brought into existence in San Jose one of the largest institutions of its kind on the coast. This is the Anderson-Barngrover Mfg. Company, which employs more than one hundred hands in putting out machines for all kinds of fruit drying, fruit processing, fruit canning and even harvesting machines.

The house began business some fifteen years ago, and has used as a motto, "Every machine the best in its line." Their first work was the putting out of the Pioneer Prune Dipper which for many years was the only machine of its kind. This was not improved on until the combined power dipper, perforator and spreader was put out, so complete as to be almost automatic in its handling of fruit. Besides this, they put out baskets, dippers, tanks, processors, presses, nailing machines, orchard and dryyard trucks, etc.

One of the handy manufactures of this firm is an orchard truck, built low for use under spreading trees, which has had immense sales in the orchards about San Jose. Its low construction not only aids in getting about the orchard but in handling the fruit, almost no lifting being necessary.

Although as a usual thing the climate of California is such that the best of results are secured in drying prunes in the open air, there are occasions, in some parts of the state, when the weather not only proves exasperating, but is such that great loss sometimes occurs from the fog or possibly rain. The prunes which have been spread out not only do not dry, but such weather too long continued will result in the fruit decaying on the tray. While this condition may be comparatively rare, yet the fearful loss when it does come has given rise to the construction of dryers, some of which have been very expensive, and equally unsatisfactory, both in cost of manipulation and in expense of fuel; but Messrs. Anderson & Barngrover have succeeded in providing a plant for artificial drying, which is comparatively cheap in construction, effective, and permits of very economical handling of the fruit. These driers are so constructed that the ordinary fruit tray may be run directly into them and left until the fruit is ready for the sweat bin. Distribution of the heat is equal in all the different compartments.

We have entered thus fully into the descriptions of some of the appliances put out by this firm because we know that it may be of great value to the subscribers of this paper.

During the past year dairying in Central California has increased fully twenty-five per cent, while in the southern part of the state the increase in dairy products is only about five per cent. Los Angeles is the best market in the whole west for dairy products, there never having been a year since dairying has been a business, when the home supply was equal to the demand. There are still plenty of chances to build up a paying business in the dairy line in all parts of California.

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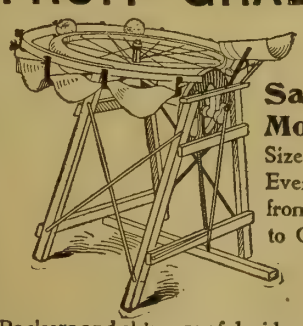

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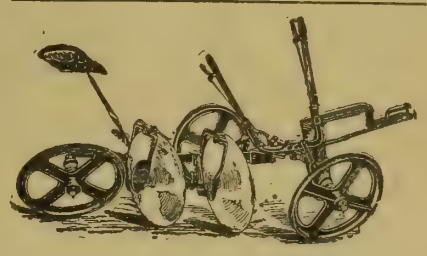

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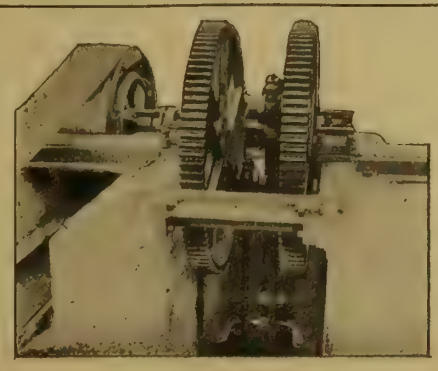

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C. H. SESSIONS, ASSOCIATE EDITOR

INFLUENCE OF GREAT BULLS.

The greatest steps in the improvement of the Jersey, both in its native island and in the larger American field, have been marked by the influence of great bulls. It often occurs that more than one of these bulls, whose inflence risese to dominance in the breed is from a single dam. This reflex action tion shows the tremendous influence that the blood of a single cow may have in shaping the fortunes of a breed.

In every breed whose progress is governed by the best of performance (and fashion is shaped by success in that performance), it is surprising, in the trying out of myriads of individuals in the breeding field, how a select few exert a plasmatic influence which lifts their descendants to a higher average capacity than the great mass of their fellows. Not only this as performers, but in another generation such an advanced family or tribe finds by experimental crossing some other characteristic tribe or family with which it so blends as to place the offspring on a still higher plane of average performance and breeding power. Along with this average tendency to higher results, there come occasional individuals, both male and female, that so far exceed the rest as to stand out conspicuously as leaders of the general advance. The breeding power of these exceptional individuals cannot be foretold, though certain conditions of pedigree and form are considered indicative features. But silently and in the test of time the best rise to the top and dominate the field of scientific breeding. The blood of Eurotas breaks away from Darlington and works its quality of improvement from the Atlantic to the Pacific; the blood of Stoke Pogis 3d leaves its St. Lambert home in Canada and permeates the herds of the United States; the blood of the black cow Sultanne and her double decndant Golden Lad,spreading from her native home in Jersey, infuses her quality into the herds of England and American until every show ring and public dairy test ties a blue ribbon to it.

The most profitable reward, under present conditions for which a Jersey cow can be successfully bred is ability to win in the show ring, while the real measure of highest value should be ability to win in butter making contests. This condition is due to circumstances rather than to the public's highest ideal. There is no medium of competitive dairy test that is equally accesible to all, and that affords confidence in results. At heart, the great American public honors and patronizes a performer. Yet it wants the performance to be made in open competition, with equal conditions of advantage and restriction, safeguarded to all, before it will pay homage to the doer. Until these circumstances can be secured, the show ring will continue to be the leading field of adventure for the breeder, and the "looker" will outsell the performer.

It is at this point that a great deal of discontent now pervades the breeding of Jerseys. Some of the plainer sorts that are deep churners feel that they are not getting the recognition due to their merit, while more showy cattle are being sought by moneyed investors. On sporadic occasions, systematic dairy tests, conducted at the world's fairs and commanding public confidence, have given us a taste of the widespread interest existing in the "battle of the breeds," proving that, were the opportunity continuous and readily accesible of entry, the spirit of rivalry, like the snowball, would gather as it rolled until its following would constitute an industry, the effect of which, transmitted to the general dairy stock, would in time add millions to its economic value.

For the reason that prevailing conditions of butter tests are not satisfactory, they are apt to be ignored by the buyer who prefers to judge upon form. When certain particulars of form are before him, his admiration impels his belief that he cannot be far wrong, and that he is as safely getting the cow he wants, by the type and symbol, as he would be by relying upon announced butter tests, such as they are. In the same spirit, he pays special deference to show winnings and high auction prices as evidences of merit if the transactions are above his suspicion and the cow "looks it." The saving clause in this anomaly is that in the general average the best looking cows (as dairy types are judged) are really the best general dairy cows, and, similarly, if less uniformly, the best butter cows. Thus we get, in a more roundabout way, the general result that a better system of competitive tests would reach by a shorter and more direct road.

These circumstances account largely for the more eager demand of late accorded to imported stock of high dairy form as compared with less showy native cattle. Besides, a somewhat circumscribed butter test often comes with the island cow, which at least has the merit of publicity of performance safeguarded by the jealousy of open competition on the fair grounds, and hence carries some value in the bidding. When prize cows at the shows and "toppers" at the sales run numerously in family groups, the "form" seeker honors the blood with his confidence the same as he would honor blood that by satisfactory test had turned out many creditable performers.

By whichever standard honors are assigned, the winners are credited back to their various sires. In effct, the bull is even more than half the herd. He is the turning point in success or failure in most breeding varieties. And this does not depend entirely upon his independent merit, but also upon his special fitness for what he is to cross with.

This country has almost invariably been fortunate in the charater of the Jersey bulls which have been imported. Mr. T. S. Cooper, the largest importer, has conscientiously sought always to bring very high class bulls, and his care and skill in this respect have been such as to make it a credit to have one of his importation. In his home-herd days, he was no less discriminating, and for his own use has more than once set an example of liberality in outlay that confirms the sincerity of his argument as to the importance and value of a bull of high caste.

It was no small compliment to Mr. Peer's acumen as importer that Mr. Cooper paid him $2250 for the world-famous Golden Fern's Lad at his recent importation sale—the best price this year for a bull. And Mr. Cooper feels that he has secured the greatest living Jersey bull, for he says that "Lad" will live and die at Linden Grove as Pedro did before him.

Of all tests by which a bull can be chosen, the already-tried sire offers the most conclusive assurance of success in breeding. Golden Fern's Lad, while yet of useful age, has achieved this condition as probably no other island bull ever did while living. His son, Flying Fox, is making a grand push for like achievements. Imported St. Helier did it years ago in this country.

Of American bred bulls of similar achievements, Champion of America, Duke of Darlington, Stoke Pogis 5th, Pedro, Signal, Exile of St. Lambert, Stoke Pogis of Prospect, King of St. Lambert, and Hart's King lived to profit by their own honors. Such bulls are almost priceless. Every one of those named was a great money maker for his owner. Each was a herd founder, and made an independent reputation for a breeder or specialized one already made.

We cannot all have such tried bulls; indeed, few of us may. But while our next security in choosing a sire is more speculative, we can start with a younger animal, hoping to bring him to reconized primacy before his days of profit have passed. We choose, therefore, on pedigree and individuality. Judgment differs as to which of these is most important, but nobody questions that both are very important. Again, judgment differs as to what should be the dominant conditions of a good pedigree, and as to what are the most essential features of a bull's individuality. Brothers are not always equal; therefore pedigree does not do it all. The great prize winner at the shows often fails as a sire, therefore skilled judgment of form is insufficient. Yet for pedigree we like our bull's dam to be of great dairy type and performance, and from a family famous for like character. If his dam has already produced a great sire, we like our chances vastly

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KANSAS STATE COLLEGE
Read carefully Press Bulletin No. 123, issued May 26, 1903.
The U. S. Separator excelled the five other separators in the competition, but we refer to one only in this space, viz: our "would-be competitors."
DeLaval average test of skimmilk, . . .048
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This shows that the DeLaval Separator left 45 per cent. more butter-fat in the skimmed milk than the U. S.
These tests substantiate former records and are continued proofs that
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better. For our bull's sire we like a tried getter of winning daughters, and all the better if his male line strings through a succession of great sires. Some of us would like the sire of our bull all the better if he is well inbred to the most valuable source of his ancestry, and bears, as an individual, the characteristic impress of that source. For the sire's dam, give us much the same sort of cow that we have chosen our bull from. No harm if she comes of the same family, but if not, let her be of a family that has previously crossed well with that of the dam of our bull.

As to individuality in the bull, I shall say less, but invite discussion. I personally want pronounced masculinity, yet divested of aboriginal grossness. The latter should disappear as the natural modification in changing from the wild to the domesticated state, and form that to specialized type. Yet there is a proneness in males to revert to early features of masculinity, against which I have more of a prejudice than a consistent reason. When I recall the striking coarseness of head, neck and shoulders of some of the Stoke Pogis bulls that prove to be sires of wonderful dairy stock, I ask myself whether, after all, a bull can be too masculine. Still, it seems philosophical that we can breed of some of this "fighting form" of the aboriginal male we mold a special type, and still retain a domesticated masculinity that will support a condition of high vitality in the breed. But I have never been convinced that because the purposes of a dairy breed are purely feminine in their functional capacity, we can safely ignore masculinity of character in our bulls. Femininity should be kept in balance, but not forced. Nature takes care of dormant character submerged by sex. No boy ever grew a heavier beard because his mother had a hairy face, but rather the reverse. No boy never failed to grow a bread because his mother's face was smooth. Yet most of and would-be experts put great stress upon feminine traits in bulls, and look to very little else in choosing them. It conforms with the best biological teaching that the masculine bull will no less surely transmit femininity from the dormant stock submerged in him, and with greater vital force back of it, than will be imparted by an effeminate bull. From constrasted parents come offsping of highest vitality, say the greatest teachers of heredity.—Hark Comstock in Country Gentleman.

COMMENTS ON VARIOUS FEEDSTUFFS.

Continued from first page)

human food to make them profitable for stock.

Squashes.—Another class of vegetables which are useful and easily grown is that of the melons or squashes. A very familiar example is the so-called pie-melon. This like the ordinary field pumpkin, can be produced readily in large quantities on most lands, and it ripens at a time when green food is likely to be scarce. (Possibly of more value is the Tsama or South African desert melon which was fully described and illustrated in the Cultivator of May 1, of this year. Ed.) All of these vegetables when fed to dairy stock produce an increased milk yield, which is more than commensurate with their actual content of food substance. This is because of their palatability, beneficial effect upon digestion, and in addition of a wholesome variety to the ration. Any o. the vegetables named may be fed with profit to swine and poultry when in confinement, and to sheep especially during the nursing period.

Silage.—One of the most economical means of preparing succulent food for seasons of drought and for supplementary feeding is by the use of the silo. It is, no doubt, generally understood that the silo, as at present constructed, is a huge tank having perpendicular walls and being made as nearly air-tight as is convenient. The usual size for the silo is fifteen to twenty feet in diameter and thirty feet high. Into the silo is put the green fodder immediately after being cut fresh in the field. The most common crop for ensilage is Indian corn, which is, moreover, the most profitable plant to grow for this purpose. At one harvest it furnishes a larger tonnage per acre than any other crop. The stalks, which if cured dry would be largely wasted, are kept in so soft a condition in the silo as to be completely eaten by the stock. Other plants, such as alfalfa, barley, oats, and orchard grass, are sometimes ensiled, but we would not recommend their general use except in seasons or localities where corn may not at the time be available, or in case they might otherwise be rendered more or less useless if cured dry; as, for example, the first cutting of alfalfa with its usual mixture of foxtail. Almost any plant grown on the ranch may be ensiled. The chief question is, what can be most profitably made the main crop for the purpose? The proof is abundant that Indian corn is the most profitable. The sorghums and sweet corn do not answer well for ensiling because of their high content of sugar, resulting in too much fermentation in the silo.

No better combination of foods for feeding cows in the stable can be imagined than alfalfa hay and corn silage, and possibly a little grain, although a fairly well-balanced ration can be made up without grain. In such feeding it is best to give hay and silage each once a day. The amount of silage per head ranges from thirty-five to sixty pounds daily, depending upon the size and appetite of the animal and upon the supply of silage. The cattle will eat corn silage at all seasons of the year, even when on good alfalfa or other green pasture; but if the supply be limited it can be most profitably fed when pastures are dry, or if the cattle should be kept off them because of heavy rains or until the grass is of sufficient size to be of value. If the dairymen will erect silos and have their cows calve in the fall instead of spring they can secure as large a flow of milk during the season when dairy products are high priced as they now have during the low prices of the spring months. Corn silage may be fed with profit to sheep as well as cattle, but not to other stock. Alfalfa silage is fed successfully to all farm stock, including swine and poultry. Horses working hard should be given such watery food in very small quantities; while those at light work or doing nothing may be fed more, and will even make profitable use of some corn silage.

Soiling.—Another method of providing succulent food is to cut the fodder green and feed immediately to the stock. This method is known as "soiling." Any of the ordinary fodder plants may be used in this way—the most common being any of the corns, sorghums, oats and peas, cereal grasses and the like. If this practice is followed the same rule would apply as in the case of silage—to raise the crop which will produce the most and best food per acre. "Soiling" presupposes that the stock are being kept in small pastures or in corrals, or at least have but little feed on their range. It also calls for more labor than is necessary if the stock could harvest their own food, but less land is required to maintain the same number of cattle than if they depended wholly upon pasturage. The matter then lies betwen soiling on the one hand with less land and more labor, and pasturage on the other with more land and less labor. With plenty of land available and labor high, we do not expect an extended adoption of the soiling method in California for some years to come. The more general the use of the silo will also tend to reduce the soiling period, because experience shows thta it is cheaper to provide green food for the year by one filling of the silo than by the daily cutting of standing fodder.

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ALFALFA.

The large amount of alfalfa grown in the interior valleys of the state and its great value as a stock food render it an important element in the development of the animal industries, and one worthy of careful study and experimentation. Two factors make alfalfa of great use to the farmer and stockman—one is the large yield of pasture or hay that he can produce during the year, and the other is the high content of protein which alfalfa contains. Alfalfa hay of good quality carries so much of this important and usually costly element that a glance at the table of analysis shows that twenty pounds of hay contains as much protein as is required in the balanced ration of an ordinary sized milch cow. Almost all of the coarse fodder grown upon the ranch is relatively rich in carbohydrates and relatively poor in protein. This is particularly true of the cereal hays, straw, corn fodder and the like. With these only the feeder cannot make a good ration, but what he needs to buy is protein. He usually buys concentrated foods because of their richness in protein, and also pays for them on the basis of their protein content. Were he able to raise alfalfa or to buy it at a reasonable price, he could feed his cattle much more cheaply, and undoubtedly with as good results.

In connection with the foregoing there is given a table in the bulletin, in which is the comparative cost of protein in the various feed stuffs. From this we note that in corn which at an average would cost say $26, the cost price of each pound of protein would be 16.17 cents. In wheat bran costing say $17, price for each pound of protein is 7.6 cents. Linseed oil meal at a basis of $25 per ton, 4.8 cents per pound. Alfalfa hay at $8 per ton, 3.3 cents. Wheat hay at $9, 11.1 cents. Barley hay at $9 per ton, 7.8 cents per pound. Straw at $3 per ton 19 cents per pound. Corn silage which costs to put up ordinarily $2 per ton, gives 26 pounds of protein, which makes an average of 7.7 cents per pound.

DAIRY NOTES.

The small creamery owned by the dairyman himself seems to be increasing in popularity. We note that in the last issue of the Dairy and Produce Review that M. Isidoro has erected a small creamery near Pescadero. C. J. Murray, a large dairyman in Marin county, has established a complete creamery. L. C. Jones of Modesto has purchased a separating outfit, and will ship cream to San Francisco.

At the meeting of the Creamery Board of Trade of Los Angeles, held last Saturday, F. G. Taylor, of the Eureka Creamery, Compton, was elected president; R. R. Briggs of Hynes, vice-president; O. J. Weber, Los Angeles, secretary and treasurer.

A skimming station established at Cowells will supply cream to the Murphy and Paul, a new creamery at San Francisco.

The Woodland Creamery reports that June was the biggest month in its history.

There is more eastern butter in cold storage in Los Angeles than ever before, and San Francisco is reported overloaded. Should early rains set in the coming fall, those speculating in cold storage butter may find themselves up against certain loss.

The Glen Holly Dairy Co. have ordered through Wickson & Co., an Alpha separator, bottle filler and bottle washer, for their new plant in this city.

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Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

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AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
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Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
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Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
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OF REGISTERED JERSEYS.
Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices.
GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT Station B, Los Angeles

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.

FOR SALE
Sixty acres, two deep artesian wells; good cottage, large barn; 15 acres alfalfa, grove, orchard, etc. Water piped for domestic use; fenced and cross fenced. $7,000 is a low price.
Jno. A. Campbell, Buena Park, Cal.

JERSEY BULLS OF ALL AGES
FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY - DUARTE, CALIF.

TWO THOUSAND POUNDS A MINUTE

A. R. Coulson Tells About the New Mixing Machine and Why It Had to Be Built.

The large mixing machine recently completed is something new and it took a long time and lots of expense to make it work. This is the best mixing machine on the Pacific Coast, and it works so well that no doubt that many of the other mills will copy after it.

This electric machine will mix a ton of feed in less than a minute, more evenly and thoroughly than a man with a shovel could mix it in half a day.

Although this great machine cost nearly $1000, it will make a great saving in labor which will make up for the cost of the machine in a few months. Where it cost $1 a ton to mix feed by hand labor this machine will mix it at a cost of 25c a ton.

It was absolutely necessary to have this machine, no matter what it cost, because the trade on balanced rations for poultry and stock was increasing so fast that they could not be made fast enough with six men working by hand labor. Besides, a machine like this one mixes it more thoroughly and satisfactorily than could be accomplished otherwise.

My enterprise is bringing me success. Not only am I successful myself, but those who follow my directions and use my poultry foods are successful too.

This is shown by the ever increasing trade on my balanced rations for poultry.

C. J. McCarthy says he has made more money out of his hens since he has been feeding Coulson's food for laying hens than ever before. He is well satisfied with Coulson's balanced rations for poultry.

D. H. Ward of Cotati has been feeding Coulson's balanced rations for about a year, and has had such splendid success and made his hens pay so well that many of the other poultrymen have gone to him to find out what he feeds to make the hens do so well. Mr. Ward recommends Coulson's balanced ration for poultry.

E. D. Callon of Fallon, who has about 5000 head of poultry, has used a number of tons of Coulson's' poultry foods and recommends it to be all right.

Geo. W. Gaston of Two Rock has 2500 laying hens which are paying him well. Mr. Gaston has fed about 300 sacks of Coulson's balanced rations for poultry and recommends it to be all right.

A. M. Shread, assistant postmaster at Jacksonville, San Joaquin county, writes: After having used Coulson's balanced ration for poultry I wish to say that it is all that it is recommended to be, and that really it is the best food that one can feed, and it is quite a saving on other food stuff, as it is richer and gives better results."

D. F. Colley at Downey, Los Angeles county, when sending for another ton of Coulson's egg food for laying hens, writes: "My hens are doing well now and I think Coulson's food is what makes them lay so, and I do not want to get out of it. The hens like it and it don't take much to fill them up, as it is a richer food. It costs me 50 cents a sack freight so make the price as cheap as possible."

L. J. Howell at Hollister has used over 100 sacks of Coulson's poultry foods and his hens are laying an average of 60 per cent, that is 60 eggs a day for each 100 hens.

Miss K. L. Richardson, an enterprising young lady at Malaga, four miles from Fresno, is making her poultry venture a success. Miss Richardson has ordered over 200 sacks of Coulson's balanced rations for poultry during the last four months.

S. W. Morgan, a breeder of fancy poultry near San Diego, has a supply of Coulson's poultry foods shipped by steamer every three or four weeks.

Many of the fancy breeders in Ventura and Los Angeles county now feed Coulson's balanced rations for poultry.

Mrs. Riley at Biggs, Butte county, orders ten or twelve sacks of Coulson's egg food at a time to be sent by freight.

Many other parties in Placer county, Toulumne county and Yolo county, order a supply to be sent by freight once a month.

Cnopius & Co., Santa Rosa, write: "Please quote us your lowest price on a full carload of Coulson's balanced ration for hens." This firm has already sold over 1000 sacks of Coulson's food.

Extracts from letters:

"We are entirely out of Coulson's egg food and Coulson's chick food and our customers are howling for it. So please see that our order goes forward at once by first freight."

"Enclosed find check for $168.70 to pay for last shipment of Coulson's egg food."

"Please ship at once to Germain Seed Co. by steamer to Los Angeles, 20 bags of Coulson's balanced ration egg food. There is quite a demand for it."

W. T. Park, of West street, one of Petaluma's progressive poultrymen, proved by actual experiment that Coulson's food for hens would make hens lay and grow feathers at the same time.

He bought from a neighbor a flock of 50 hens which were all run down. Their combs were black and they were a hard looking lot. He put them in a pen by themselves and fed them Coulson's egg and feather food and in two weeks they were all growing new feathers and over half of them were laying. Mr. Park uses Coulson's food right along.

There are hundreds of others that are using Coulson's poultry foods right along and are making a success of it.

Coulson's balanced ration for poultry is now on sale at most up-to-date feed stores, or if not, you can order from factory and have it sent by freight.

Zartman & Co. are building a new advertising wagon for Mr. Coulson. It is to cost about $125 and to have a low top and the inside is to be fitted up with shelves and a door on the end so this wagon inside will look like a little store. Charles Mills will have charge of this wagon and will take a four month's trip down in the southern part of the state as far as Mexico. Another wagon similar to this will be built for the northern country.

If you are not using Coulson's balanced ration, why not give it a trial and make more profit out of your poultry. Coulson's food will be as cheap as any other good feed and it will make your poultry give you double the returns on the cost of feed.

Ask your feed dealer for Coulson's food and don't let them sell you something else which they may say is just as good, because they want to sell you something that they can make more money on.

Remember it is Coulson's that you heard so much about, it is Coulson's that gives such good results, and it is Coulson's food that you want.

Following are a few items at random as samples from my daily mail and given here to show what people think of my poultry foods:

Hollister, Cal., July 1, 1903.

A. R. Coulson. Dear Sir: Please ship to me at your earliest convenience one carload, 350 sacks, Coulson's Egg and Feather Food. R. C. GURY.

The Western Union Telegraph Co.

Salinas, July 15, 1903.

A. R. Coulson, Petaluma, Cal.—Ship to W. J. Fair, Salinas, one carload, 350 sacks, Egg and Feather Food and 25 sacks Chick Food.

CHAS. MILES.

L. S. Butler writes from Los Gatos: "I have used half a ton of Coulson's Egg and Feather Food and like it very well. Will soon want more of it."

John Lants of Sacramento writes: "I have used Coulson's and other kinds of egg food, but Coulson's is the best."

Hollister, Cal., July 11, 1903.

To Whom it May Concern:

I, the undersigned, started to feed Coulson's Egg and Feather Food to 250 chickens which were moulting. At the end of ten days I found that my egg production was increased 50 eggs and am fully satisfied with said food.

H. A. Hall.

Hollister, Cal., July 10, 1903.

To whom it may concern:

I, the undersigned, have fed Coulson's Egg and Feather Food to my flock of poultry consisting of 1000 for six months and can cheerfully recommend the feed to any one raising poultry as a cheaper feed and an egg producing feed. Signed, W. K. Goff.

Calistoga, July 11, 1903.

A. R. Coulson—Dear Sir: Enclosed find $7.75 for which please send by freight 5 sacks more of your Egg and Feather Food for moulting hens. So far I am well pleased with results. Yours respectfully,

MRS. E. BANTA.

Santa Rosa, July 13, 1903.

A. R. Coulson—Dear Sir: I write to tell you I have been using your food for about a year and am well pleased with results. I have been keeping hens for over 20 years and never had them do as well as they have since I have used your food. Yours Respectfully, G. J. CUNNINGHAM.

D H. Ward, one of the most successful poultry raisers at Cotati, has been feeding Coulson's Egg and Feather Food for 1 year and has used about 200 sacks of it. He recommends it to all parties raising poultry as it proves to be the most satisfactory and economical of all feeds. Last winter when eggs were bringing 55 cents a dozen Mr. Ward had 500 laying hens that laid an average of nearly 250 egs a day, and were fed on Coulson's Balanced Ration Egg Food.

C. N. Davis says that by feeding his hens Coulson's Egg Food for two weeks the hens have doubled the egg supply and are moulting too.

$500 IN GOLD.

Hollister, Cal., July 9, 1903.

A. R. Coulson—Dear Sir: I send you today $500 in gold by Wells Fargo Express, money collected for Coulson's Egg Food sold at Hollister. Your respectfully, CHAS. S. MILES.

This Feed now for sale by over one hundred stores in California. If your dealer doesn't keep it, write for prices and have it sent to you by freight.

A. R. COULSON

772-774 Main St., Petaluma, Cal. Long Distance Telephone, Black 1303

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

WOMAN'S WORK IN THE POULTRY YARD.

ROUP.

A chapter on the sad topic of "Roup" is demanded by the following letter: As you stated in the issue of June 11th, there are many new readers of the Cultivator and there are older ones, who read your valuable writings, but lose much of their benefit by not having had some experience before hand. In the brief time in which I have been reading up on poultry, I have seen roup mentioned many times, but do not remember having seen it described.

A dozen of my young chickens have been sick for two weeks. We first noticed badly soiled feathers on their shoulders and discovered that they were wiping their eyes on them. Their heads soon became inflamed, and one, in some cases both eyes would eventually close up. None have died and the most of them have so far recovered that we have discharged them from the hospital. Will you kindly give me the name and remedy for this trouble? I think many readers of the Cultivator would like to read in its columns how to reach your poultry ranch from Los Angeles.—J. B. D., National City.

Most poultry breeders would diagnose this case as "roup." This is the name given to colds of any kind, but as in the human family there are colds of various kinds, so there are also different kinds of roup, which call for different kinds of treatment. Dr. Salmon in his learned, scientific and most valuable book on the Diseases of Poultry divides roup into simple catarrh, roupy catarrh, bronchitis, pneumonia, congestion of the lungs and diphtheria. Roup may be considered like grippe in the human family, that will run into various diseases. Diseases of fowls closely resemble human diseases, and frequently may be treated in the same way. This is a good thing to remember, because in an emergency one may frequently have in the house a "family" remedy, which will be effective if immediately applied to a sick fowl, while if no remedy were given, until a regular poultry medicine could be obtained, the fowl would be lost. A considerable proportion of cases of sickness in the poultry yard yield to very simple treatment, if taken in time; the great trouble is they are not observed soon enough, or there is no remedy at hand to give the fowl. It is possible to cure many bad cases, but the life of a well fowl is not worth much, as a rule, in dollars and cents, and the life of a sick fowl is worth considerable less. The hatchet, followed by the spade, is a quick and efficient remedy.

It is not only the cost of medicines and the value of the time spent in administering them, but the fact that a fowl once dangerously ill, with an organic disease, can never be used as breeders, because there is born in the offspring a strong tendency to contract the same disease, at the same age at which the parents had it. "Poultry Craft," by J. H. Robinson, declares that this happens so often as to justify saying that it is the rule, that among the offspring of fowls recovered from a severe attack of diphtheritic roup, that disease will become epidemic, when the offspring of fowls which never had the disease are not at all affected, though kept under the same conditions and sometimes in the same house, unless the disease is literally forced on them by contact with sick fowls.

An ounce of prevention is worth a pound of cure. Readers of the Cultivator know my rules for success with fowls. Comfort, exercise, proper food. To insure freedom from disease these three conditions are necessary. Comfort always includes cleanliness. Ninety-nine cases out of a hundred of roup can be traced to lice or mites. Cleanliness, no lice, correct sanitary conditions, good houses, well sunned and aired with no draughts, are preventions.

Quarantining all new fowls is a prevention. This is a matter of very great importance. The germs of some diseases to which acclimated fowls have been immune, often affect the unacclimated fowls, which are for a time less able to resist, and, having thus gained a foot hold, will successfully attack the acclimated fowls. The contrary also often happens. The new fowls bring with them the germs of disease, which in their old home they had successfully resisted, but which, in the new climate, are suddenly developed, and they succumb, and if the breeder is at all careless, the whole stock may become affected.

Fowls from outside flocks should be prevented from coming in contact with or feeding on the same ground as yours. Pigeons, also should be kept away. They are the worst disease carriers of any domestic birds.

Fowls that seem the least indisposed should be promptly removed from the flock and properly cared for, and as far as possible the conditions which brought the ailment should be corrected. Too often such measures are neglected until disease has positively developed.

Preventing a disease is far easier than curing it. "Poultry Craft" has the following hints to guide, in the diagnosis of the ailments of fowls, which I have found very helpful:

When a fowl sneezes, waters slightly at the nostrils and eyes, the face purs up, any or all of these symptoms indicate a common cold.

When it rattles in the throat it has a cold with bronchitis.

When it experiences great difficulty in breathing it has, probably, pneumonia.

When cankers form in the mouth and throat, it has diphtheria or diphtheritic roup.

When discharges from the nostrils are profuse and ill smelling, it has common roup, influenza. Looseness of the bowels frequently accompanies this.

A common cold neglected runs into roup, in fact roup always commences as a cold. Anything that is good for a cold, in the human family, is also good for fowls, and the dose for a mature fowl is the same as for a grown person. Homepathic aconite in the drinking water. Humphrey's or Munyon's Grippe Specific will frequently effect a cure. A two-grain capsule of quinine and half a teaspoonful of cayenne pepper is a favorite remedy of mine, rubbing the swelled head with carbolated vaseline or squirting up the nostrils and in the cleft of the palate a few drops of the following roup cure:

Two tablespoons of castor oil, one tablespoon of turpentine, one tablespoon of coal oil, ten drops of carbolic acid with a small piece of camphor gum in the bottle. Another very excellent prescription is: Mix 2 tablespoons of lard, one tablespoon of mustard, one of cayenne pepper, one of ginger and one of vinegar, with sufficient flour to make a dough, give a pellet of this the size of a hazel nut. A single dose often cures; if it does not, give another dose in twenty-four hours.

For diphtheritic roup a number of

MATURED

Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W Leghorns
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.

Chickens and Plant For Sale

Four hundred one-year-old laying hens at $6.00 per dozen, also Thoroughbred Buff Orpingtons, White, Brown and Buff Leghorns. Also lot of modern poultry coops, brooders and incubators.
Louis S. Fletcher, Anaheim, Cal.

JACOB KREGER
Route 1 - Anaheim, Cal.
BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
Eggs and Stock for sale at reasonable prices

White Leghorns AND Barred Rocks

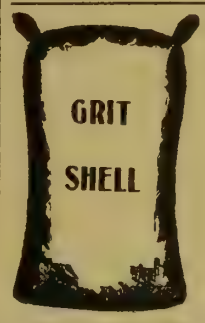
The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.
G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.

The largest poultry supply house in the United States
FOR ONLY $4
I will ship you during July and August, freight prepaid, to your nearest R. R. station the following articles:

1 100-lb sack "Henteeth" (the best grit)	value $1 50
1 100-lb sack Fancy Shell, very hard, value	1.25
1 1-gallon can "Great Lice Killer," value	1 50
1 Aspinwall Hand Sprayer, value	1.00
1 package (48 oz.) Insect Powder, value	.50

HENRY ALBERS
315 South Main St. Los Angeles, Cal.

Don't believe all we say but just enough to try our Poultry foods.
Emery's Pure Meat Meal Emery's "B. B. & B."
Ask your nearest dealer for them and take no imitations.
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.



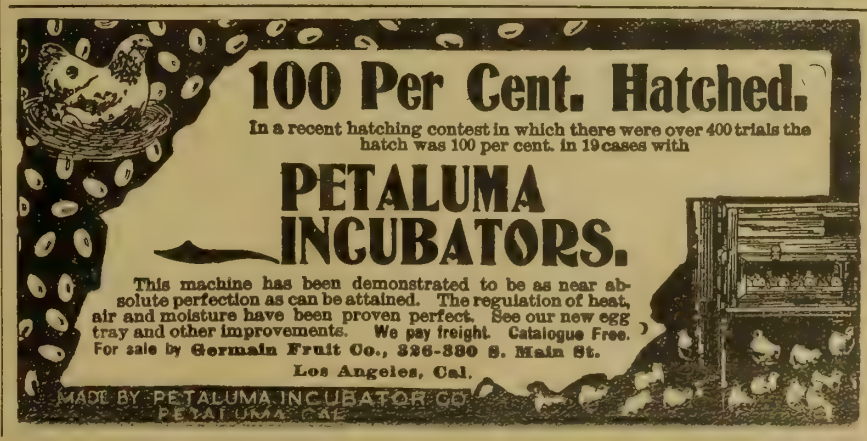
Send Me Four Dollars

And during JULY and AUGUST will ship to your nearest freight depot, FREIGHT PREPAID, the following most necessary articles for poultrymen at this season:

1 100-lb. sack "Henteeth" (the best grit) value	$1.50
1 100-lb. sack Granulated Hard Eastern Oyster Shells, value	1.50
1 1-gallon can Black Diamond Lice Killer, "	1.00
1 Black Diamond Hand Sprayer, value	1.00
1 package (15 oz.) Insect Powder, value	.25

GEO. H. CROLEY, Poultry Supplies
508 Sacramento St., SAN FRANCISCO

WHITE PLYMOUTH ROCKS
GIVEN AWAY
"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.
Eggs—13 for $2.00.
INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2 50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.
Mrs. A. Basley
Near Los Angeles, Alma St. Prospect Park, Cal.



different treatments have been successful at one time and failed at another. Most of the roup remedies advertised have been successfully used in many cases. Experienced practical poultry men do not doctor fowls which have diphtheria; they kill and bury or burn them. For those who wish to try and save their birds the following remedies are given:

(Poultry Craft.) One oz. each of oil of sassafras, Jamacia ginger, tincture of iron, alcohol, half an oz. of prickly ash fluid extract, one-fourth oz. oil of anise. Dose, a teasponful to each gallon of drinking water.

The following treatment by A. V. Meersh has been successfully used in many cases: Clean out the pus, if in the mouth, with a little spatula, if you make it bleed a little don't be alarmed. Wash the mouth out with swab of cotton batting, attached to a little stick, saturated in peroxide of hydrogen, then drop a little aristol on each sore place; repeat this operation morning and evening for three days.

A small piece of bluestone in the drinking water is an excellent disinfectant and cleanser.

A subscriber writes:

My mother has been much interested in your articles on the care of poultry, copied by the San Jose Mercury from the California Cultivator. She was especially glad to have your description of the perches which you use for young chickens. If you are willing to answer she would like to ask you some questions.

1. What lice killer do you use?

2. What kind of "tar-weed" do you use and how do you use it? There are several varieties of "tar-weed" here, but we have never heard of its being used around chicken houses.

3. How do you get rid of body lice, the kind that hide under the wings and run rapidly? Will the dipping in warm soap-suds and rinsing in a solution of chloro-naptholeum kill them?

4. How strong should the solution of chloro-naptholeum be made? Mother has used "naptha flakes" as an insecticide but has feared that this injured the chickens.

We have McFarland's directions for feeding for eggs, which has proven to be very good, and shall be glad to send it to you, if you wish it.—A. P., San Jose.

1. I use "Lambert's Death to Lice," of Buhach on chickens. Lee's Lice Killer on the perches, or paint a box or barrel with it and put them in for a few hours.

2. The tar-weed here is "Trychostema Lanceolata." I have not yet thoroughly tried it in my henneries. It is most highly recommended by a neighbor of mine.

3. By dusting with powder, and by fumigating with Lee's Lice Killer. Dipping in a solution of chloro naptholeum will kill lice. The directions are on the bottle as to how strong to make it.

Naptha flakes are too severe, make the chickens very sick. I have tried it and experimented thoroughly and had to give it up as I lost several from it. Naptha flakes can be dissolved and put on the perches.

I should be glad to see McFarland's directions for feeding fowls.

SHIPPING MARKET EGGS.

Those who send any number of eggs to market should pay attention to the packing of same so as to obtain the top market price. First of all, select all white eggs for one case, and the brown eggs for another. Select out all the very small eggs and the bad formed ones and pack them in a case by themselves. When the case contains all white eggs of a nice even size they are graded well up in quality; the same is true of brown eggs, and the small and ill-shaped eggs are graded where they belong, but when all are mixed together the whole lot will be graded about where the poorest bring them. Fresh laid eggs in winter will sell well even though they be mixed, but in the egg stores of New York, the first week in December last, fresh-laid, well-selected white eggs sold for forty cents per dozen; brown of the same quality, 38c.; mixed, 28 to 30c. This shows plainly the value of quality and selection in fresh-laid eggs. The same ratio exists all along the line. No matter if they be cold storage eggs, appearance counts in their favor, and the well selected ones of all qualities and grades bring the best prices.—The Farmer.

WHO SMILES IN THE RAIN.

The coward may smile
When there's sun all the while—
  It's braver to smile in the rain.
The weakest may joy
When there's naught to annoy—
  He's stronger who smiles through his pain.
And then when there's sun, when there's bird song and breeze,
When Gloom's put to route and Discouragement flees,
What need has the world
Of the mouth corners curled
In the cheeriest smiles, when the fields and the trees
Are smiling so broadly that nobody sees
The wee bit of brightness you're giving the while—
But days when it's rainy there's need for your smile.

The weakling may smile
When there's brightness the while—
  It's better to smile when there's rain.
The gloomster may joy
When there's naught to annoy—
  He's brave who can laugh through his pain.
When all the wide world is so full of song
That birds sing and brooklets go warbling along,
With hearts light as chaff
All the earth seems to laugh—
The sunny day courage says not you are are strong,
Though hearty good cheer one could never call wrong—
  But oh, when the day is all haggard and gray
And Nature weeps gloomily, sobbing away—
Then laugh in the hope of the sweet afterwhile;
On days when it's rainy there's need for your smile.

S. W. Gillilan
In Baltimore American.

THE LEGEND OF THE CRYING COVE.

For two seasons the fishing off the coast of the Magdelen Islands had gone badly enough, and most of the inhabitants of the barren group had experienced the sternest hardships. To make ends meet, with many, had been an impossibility almost, and more than once whole families had been reduced to starvation point. But the sturdy men and women of the bleak and inhospitable regions never grumbled but faced their difficulties manfully, and pursued their calling, often hazardous and unsuccessful, as best they could. They had lived on the islands all their lives, several had been born on them, few had sailed more than half a dozen leagues away from their sterile homes. But all loved the place, gloomy as it was, despite the terror of the storm, the poverty of the soil and the precarious character of the living they were forced to endure. Once in a while, when matters had gone so badly that hope had died in strong men's hearts and the future looked like death, the weaker ones would say farewell to their old comrades and seek a home elsewhere, faring, perhaps, worse; but, if they did, they sent no word back to the Magdalens. At least they could keep to themselves their own misfortunes and reverses.

For two seasons, as has been said, the fishing had proved a failure; and Claude Arseneault and his Arcadian wife and children, the latter consisting of two sons and an infant daughter resolved to found a home in another place. Certainly, they could be no worse off, they thought, than they were now, and to stay longer in the old home would be madness. The schooner "Josephine" was ready to sail, and Captain X and his crew of four hardy and bronzed mariners only awaited the coming aboard of the passengers to proceed outward. It was early in the month of May when the "Josephine," stanch and trim, left Pleasant Harbor. A southeast wind prevailing, the skipper shaped his course so as to run west of the Great Bird Rocks. After clearing the Bird the wind calmed down, and instead of gaining the north shore, as he had intended, the captain was forced to obey the currents, which drifted the little vessel helplessly to the south. Toward evening the wind freshened a bit, and by midnight it was blowing a gale south by southwest. Captain X was one of the shrewdest navigators on the St. Lawrence, and knew perfectly every current and varying course of the wind in gulf and river. He had noticed the increasing dark line approaching on the calm water—a sure precursor of a storm—and had wisely stowed his sail, keeping but one jib up and double reefed.

The wheel he took charge of himself. With the coming of daylight it was hoped that the wind would subside. But fate ruled otherwise, and when the morning broke there was a high tempest raging, and the wind blew violently in a north-northeast direction. This was maintained all day, and it was quite dark when the "Josephine" found herself, in a somewhat battered condition, well up the gulf and off the Gaspe coast. When near Cape Magdalen, and about four miles from shore, the rudder chains parted. All on board realized what that meant, and every effort was made to prevent the vessel from going on shore. At this point the river is very deep and treacherous, and the anchor chains being found too short to prove effective, hope gave way instantly to despair. The honest Arcadians awaited their certain doom on their bended knees, for human help, now, was out of the question, and all knew what must inevitably follow. The little "Josephine" struggled bravely on for a while longer, but without avail; for when she was out some six miles above Magdalen River she struck heavily, and went to pieces with a loud crash. Claude, with his wife and infant child clasped in his arms, were soon parted. Stunned, bruised and bleeding, he was thrown on the beach and awoke to sensibility only when the sun was high and red in the heavens. He stood alone on the shore, the sole survivor of the wreck. Bewildered and frantic with grief he searched for his loved ones. The bodies of his sons, and those of the captain and three of the crew, he soon discovered, but wife and babe were nowhere to be seen. All day he sought among the wreckage for traces of Marie and Rita, but disappointment succeeded disappointment, and he sank exhausted at last, and tried to sleep away his hours of grief and despair. But though worn and tired, he could only doze fitfully, and, as if to add intensity to his agony, a low, moaning wail, like the cry of a suffering child, sounded constantly in his ears. A hundred times he started up and paced the beach to and fro. It was too dark to see, but he could hear; for above the roar of the wind and the loud plashing of the waves the tender, sobbing cry rose with startling distinctness. In vain Claude tried to discover the place whence the wailing came. His search was fruitless; but all night long that sad, moaning cry continued to distract him. When morning dawned some fishermen put out from Mont Louis, a small settlement a few miles away, and begged the survivor of the storm to go with them to their home. But Claude's heart was sick, and his answer at first gave them no encouragement. He could not leave his dead, he said. The storm had blown over. It was now comparatively calm, and he would look again among the debris. He tried to find the place from which the cry that had so distressed him had come, but he could no longer hear it. The men, fearing that in his despondent state he would do himself harm, pleaded with him to return with them, and after a while he consented. But he would not live in the same village. That, he had no heart to do, he said. He went further up the river, and settled along by the banks of a small stream, to which, in after years, his friends gave his name. It is still known as Claude River, and has its place on the maps.

But Claude Arsenault never fathomed the mystery that had well nigh turned his head and driven him mad. He could not go back to the spot which was associated with so much sorrow and pain. But other fishermen visited the place at times and they, too, heard the plaintive cry. They came to call it after that, L'anse Pleureuse, or Crying Cove. The superstitious among their number, and of these there were very many, used to say that on dark nights, and when there was a storm raging, the cry could be heard clearly above the blast. They said that it came from little Rita, the Arcadian child, who had been drowned the night of the great storm. All remembered the story of the wreck of the "Josephine", for it had been told far and near, and men recollected sadly Claude's fearful voice and ashy face, as he described the pitiful events of that awful night, when Rita's moaning sobs tried to guide his footsteps to her place of hiding. Some had thought the man bereft of his senses then, and they shook their heads meaningly. But, later, they had heard the moanings themselves, and it was noticed that only when the wind blew, and the storm waxed fierce, the cries swept the air and fell upon their ears. In time of calm no sound was heard. And this fact led some to make up their minds to unravel the mystery. A small party proceeded to the Crying Cove and pitched their camp under the spreading branches of a large maple tree. It was a pleasant night when

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they retired to rest, but along toward midnight a gale sprang up, and very soon it was blowing great guns. Above the din came careering along the doleful wail which had worked on the feelings of poor Claude. It awakened the sleepers, who heard the cry with varying emotions. They were not so courageous now as they had been a few hours before, and some of them were eager to leave the haunted place at once. The cry was repeated, waxing louder as the noise from the wind and the dashing whitecaps grew wilder. It sounded as if it came from a spot very near to the place where the campers sat, with blanched cheeks and starting eyeballs. Nothing could be done until daylight, however, and the more daring among them prevailed upon their fellows to wait the light of day. When the morning broke the investigators looked about them, and were rewarded by finding a clue to the mystery which had baffled so many. An adjoining tree was discovered lying on the one under which they had camped, and the bark being peeled off both, from having rubbed against each other, the friction caused by the swaying of the trees produced the cry which had so startled all who had heard it. When there was no wind there was no sound. And so the odd mystery was solved at last; but the name L'anse Pleureuse clings to the place yet, though the solemn requiem which the threes sang over the unknown grave of baby Rita has long since ceased.—Independent.

Though I were happy, throned beside the king,
I would be tender to each little thing,
With hurt-warm breast that had no speech to tell
Its inward pangs; and I would soothe it well with tender touch
And with a low, soft moan for company.
—George Elliott.

RECIPES.

Nut Sandwiches.—The most common kinds are made of English walnuts, hickory, or pecan nuts, chopped fine and mixed with one-third the quantity of chopped celery. Add sufficient salad dressing to spread easily, and place between slices of bread and butter. Another method is to chop the nuts fine and add the same amount of hard-boiled eggs, mashed to a paste, with enough mayonnaise dressing to moisten well. Chestnut sandwiches are delicious when made in this fashion: Boil the chestnuts until tender, peel and rub through a wire sieve, spread over slices of buttered bread and sprinkle with salt.

Wafer Cracker Sandwiches.—Wafer crackers when spread with grated cheese and slightly browned in the oven make delicious sandwiches to serve with salad. Candied ginger makes a nice filling for this kind of sandwich, but no dressing is to be used. Anchovy paste, strawberry, raspberry, orange, pineapple, or apple marmalade, currant and grape jelly and other sweets are used for wafer sandwiches, although anchovy paste is toothsome with bread slices. Any kind of jam rubbed through a sieve and mixed with cream makes a sandwich filling which will appeal to the most delicate taste.

Unique Sandwich.—Pound the yolks of three hard boiled eggs with 1 ounce of butter, season with cayenne, add grated cheese and salt, and pound all together. Spread on white bread previously buttered and cut into shapes. Garnish with finely chopped parsley.

Olive Sandwiches.—Cut thin slices of brown bread, butter and trim neatly. Boil two eggs until quite hard, and when cold chop them and mix finely chopped olives. Add the juice of half a lemon and whatever seasoning is desired, spread the mixture on the bread and butter and roll up ightly or cover with another slice.

Cocoanut Sandwich.—Dissolve over the fire two ounces of butter and four ounces of sugar and set to cool. To it add four ounces of grated cocoanut, one ounce of finely chopped citron, and grated rind and juice of a lemon and four well-beaten eggs. When cold spread this mixture on wafers.

TRUE.

He's true to God who's true to man; wherever wrong is done
To the Humblest and the weakest 'neath the all beholding sun,
That wrong is also done to us, and they are slaves most base
Whose love of right is for themselves, and not for all their race.
—Lowell.

HOMELY HINTS.

When poaching eggs don't forget that a teaspoon of vinegar in the water in which they are cooked makes them snowy white. Remember to salt the water. If they are dropped in muffin rings in a deep frying pan of boiling water, they will be cooked soft by standing (the covered pan removed to cool part of the range) for eight minutes. Put them on squares of buttered toast and throw a sauce over and they become creamed eggs. The sauce is made by stirring together until smooth a teaspoonful of flour and a tablespoon of hot melted butter, then away from the hot stove stir in nearly a pint of hot milk or cream. Salt to taste.

The best fire extinguishing liquid is aqua-ammonia.

Powdered borax is a harmless and exceedingly useful article to keep in the house. A tablespoonful added to hard water successfully softens it. It is an agreeable addition to the dishwater, and helps to keep the hands soft instead of irritating them as soda does.

When the fingers are stained in peeling fruits, preparing green walnuts, or in similar ways, dip them in a strong tea, rubbing them well with a nail brush, and afterward wash them in warm water, and the stains will disappear.

If the oven bakes too hard on the bottom place the grate under the cake; if too hard on top, place a pie pan of water on the grate over the cake.

To beat the whites of eggs quickly, add a pinch of salt, the effect of which is to cause them to froth rapidly.

Two apples placed in the cake box will keep the contents moist for quite a length of time.

Do not use butter for greasing pans, as the salt in it may cause the cake to stick. Use lard.

To prevent steak from burning in broiling, sprinkle a handful of salt over the live coals.

If sausages are rolled in flour before frying it will prevent breaking and also improve their flavor.

A good remedy for a burn is dry soda applied to the blister.

Clean gilt picture frames with the water in which onions have been boiled.

In storing curtains, shirtwaists, etc., always put them away rough dry, as the starch will rot the fabric.

A small piece of charcoal placed in a vase with flowers will keep them fresh for several days.

There is an ocean of difference between housekeeping and homemaking. One is a business, the other is an art. Many women make great successes in the business who fail absolutely in the art. Their houses are perfectly kept. Every department is run with care and exactness. There is never a failure to meet demand, but it is not a home. A home exists for the comfort, happiness and health of the family. There is no department of housekeeping that is not made to yield to the needs of any member. There is never a crisis of temper if a meal is late, or the convenience of a member demand a change in the hour. A few minutes—yea, even a number of minutes—spent in kindly converse in the morning, the call of a friend, or the sudden desire of an hour's outing, never seem to the homemaker a violation of the moral code. Dust does not cause nightmare, nor disorder a display which love and charity agree to call nervousness. Not things, but souls, are the objects of the homemaker's care. She values peace more than system, happiness more than regularity, content more than work accomplished. Yet, with all, her house, when she touches perfection, is the essence of regularity, order and quiet. It is this that makes homemaking an art. And she alone is a homemaker who has a true sense of proportion.—The Outlook.

We needs must love the highest when we see it. —Tennyson.

Qualified.—"What do you intend to do with your boy, Tom?" "I'll try to make him editor of a daily newspaper." "Good! Has he shown any literary tastes?" "No, but I've never known him to be satisfied with anything in his life."—Puck.

Our doubts are traitors.
And make us lose the good we oft might win,
By fearing to attempt. —Shakespeare.

General Summary.—Clear weather prevailed during the wek in the interior districts and foggy or cloudy weather in the coast districts. The temperature was slightly below normal in all sections, but conditions were generally favorable for all crops.

Harvesting, threshing and hay baling are progressing rapidly. In Southern California the yield of wheat, oats and barley is reported the heaviest for several years and the grain is of excellent quality. The hay crop in that section is also very good. In the central and northern districts the barley crop is not quite up to the average, but is considered very fair; early wheat is turning out much better than expected a few weeks ago, and in many places is about average. Late wheat is improving, especially along the coast, and there will be a small crop in some sections. Sugar beet harvest is in progress and the factories have commenced operations; the yield is reported good. Beans, corn and vegetables are doing well, but hops are not in satisfactory condition.

Fruit drying is progressing in all sections and large shipments of the dried fruit are being made. A good crop of apricots has been gathered in some places but the yield is generally below the average; the fruit is of better quality than usual. Other deciduous fruits are maturing and going to market; the yield will probably be about average. Grape prospects continue excellent in all sections, and a heavy yield of raisins is expected. Oranges and olives are doing well.

NOTES FROM SECTIONS.

Sacramento Valley.—Peaches are ripening and Tuscan clings are nearly ready for picking. Tragedy prunes are being gathered at Palermo. Pears are being shipped in considerable quantities and the crop will be large. Large shipments of dried apricots are being made from Colusa county. Grapes are in excellent condition and a heavy crop is probable.

Coast Counties.—The grain crop is being rapidly harvested and thrashed, and is nearly average in most sections, though a few places report a light yield. Hay baling is progressing. Corn, beets and beans are in good condition. Nearly all deciduous fruits are yielding excellent crops. Apricot drying in in progress; the yield in San Benito county is better than expected. Grapes continue in splendid condition and large crops are looked for. Apple trees heavily loaded.

San Jose Valley.—Grain is going to warehouses in large quantities. A small amount of the third crop of alfalfa is being cut. Fruit cutting and drying are progressing. Large quantities of peaches and pears are being shipped to eastern markets. The watermelon crop is large and of good quality. Stock healthy and in good condition. Streams falling fast.

Southern California.—Beet harvest is progressing and the sugar factory at Santa Maria has commenced operations, with an excellent crop to work on. Apricot drying is in progress; the fruit is of superior quality, but the yield is light. Other deciduous fruits and oranges are doing well. Grapes are in good condition and will yield heavily. Honey crop not as large as expected. Corn best in years.

Fauntleroy on the Birth of the Diamond.—L. L Fauntleroy: "Dearest, don't jewelers set big diamonds?" Mrs. Fauntleroy: "Yes, Cedric." L. L. Fauntleroy: "Well, dearest, do the big diamonds hatch out little ones?" —Jeweler's Weekly.

Go on in all simplicity; do not be so anxious to win a quiet mind, and it will be all the quieter. Do not examine so closely into the progress of your own soul. Do not crave so much to be perfect, but let your spiritual life be formed by your duties and by the actions which are called forth by circumstances.—Francis de Sales.

Self-reliance, self-restraint, self-discipline, these constitute an educated will.—James Freeman Clarke.

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Los Angeles Markets.

Los Angeles, July 23.

Eggs have taken a half cent advance and fresh ranch eggs are quickly cleaned up.

Potatoes are quoted at slightly higher than last week, at the same time the market is decidedly off. This is caused by the vast amount of indifferent stock which seems to be in the market this year. The first class stock readily commands top quotations.

Watermelons are now plentiful in the market, with prices much lower than last week, at the same time the market is firm. Cantalopes seem to be in limited supply, and hold very firm. Selling up to quotations.

Cherries are still in the market, but these of course, are all brought out of cold storage.

Butter.

B. of T. Creamery, per -lb roll		60
Coast Creamery	.55	
Cooking per lb	.22	25

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	.16	17
Domestic Swiss	.19	
Imported		.28

Eggs.

Fresh Ranch	.21½	22½
Fresh Eastern		19
Store, case count	.20	.21

Potatoes.

New Potatoes, per cwt	.80	1.25

Beans and Dried Peas.

Limas	3.85	3.95
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.40
Onions, red		1.00
Onions, green	.10	
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chiles, green, per lb		.05
Peas, green, per lb	.04	
Lettuce, per sack	.50	
Radishes	.10	
String Beans		.02

Fruits; Fresh.

Apricots, box of 30 lbs	.35	.50
Cantalopes—Per doz		.40
Water Melons—Per doz	.50	.75
Figs—Per box	.40	.50
Strawberries, box, fancy	.06	.08
Raspberries—Per box		.07
Logan Berries—Per box	.04	.05
Lemons—Per box	1.00	1.50
Lemons, green	.75	1.25
Oranges, Navels, per box	1.25	2.50
Grape Fruit, per box	.75	1.00
Limes, per 100	.90	1.25
Prunes, per box	.60	.75
Cherries—Per box	1.00	1.50
Peaches, per box	.50	.75
Apples, per box	.90	1.25

Fruits; Dried.

Apricots	.04	.06
Pears	.07	.08
Peaches peeled	07	08
Peaches, fair to good, sks	.03½	05
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.06
London layers, per box	1.00@2.00	
Loose, per box	6¼	7

Poultry.

Spring chickens	.15	.16
Hens, No. 1, per lb	12½	13
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22	.23
Ducks, per lb	.10	12½

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	4 00	5 00

Hay and Grain.

Barley hay	8.50	12.00
Alfalfa, large bales	9.00	11.50
Wheat hay	9.00	11.00
Barley, old		1.30
Barley, new crop		.80
Corn, per ctl		1.50
Wheat	1.60	
Oats		1.45
Bran		1.25
Rolled barley		1.05

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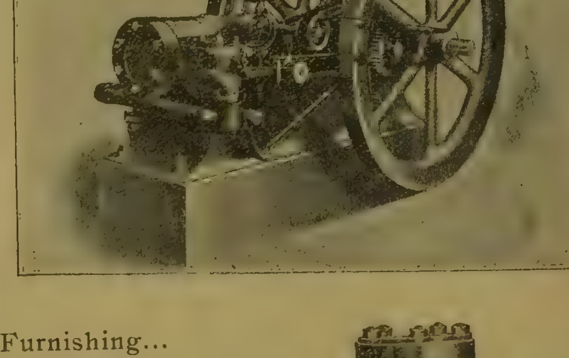

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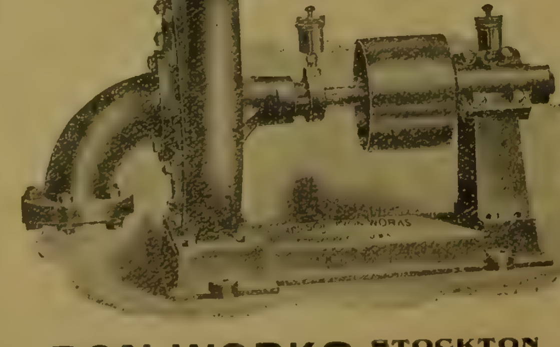

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San Francisco Markets.

Dairy.

San Francisco, July 23.

The receipts of coast butter have fallen to about one-half what they were a month ago. Then about 70,000 pounds per day was the average. Now 30,000 to 35,000 is the amount. This is caused by the shortage of pastures in all the coast. The market has advanced a cent to a cent and a half since last week, and is of a firmer tone. This is especially true of fancy stock. Indifferent stock goes begging, at least it will not command full quoted prices. There is a vast amount of eastern in cold storage, which is now being continually drawn on.

BUTTER—Per lb:

Creamery extras	27	@27½
Creamery firsts	25	@26
Creamery seconds	23	@24
Dairy extras	23	24
Dairy firsts	21	22
Store	18	19

CHEESE—Per lb:

Cal. Creamery, mild new, extra	14	@15
Cal. Creamery, mild new choice	13½	@14
Young America	14	15½
Eastern, New York Cream, Cheddars and flats	18	@19

Eggs and Poultry.

Receipts of Eggs show a marked falling off and the market continues firm, although, owing to the present high prices, buyers are cautious. The top quotation is generally an extreme, but small sales of extra large whites are recorded in some instances as high as 27c. The cheaper Eggs are steady in sympathy.

EGGS—Per doz:

Ranch, selected large	26	
Ranch, good to choice	24	@25
Store	19	22
Eastern	17	@20

Abundance of eastern stock has depressed the poultry market, which is far weaker than last week. Already this week three cars of eastern poultry have been received. Young plump stock commands quoted prices.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $6@8; Fryers, $3.50@4.50; Broilers, large, $3@3.50; small, $2@2.50; Hens, $4@5; Ducks, per doz., old, $3@3.50; young, $3.50@4.50; Turkeys, nominal; Geese, per pair, $1.25@1.50; Goslings, $1.25@1.50; Pigeons, per doz., young, $1.50; do, old, $1.50.

Fruits and Vegetables.

The receipts of deciduous fruits has continued up to the standard during the past week. Prices have been well maintained with no pronounced fluctuation. Peaches are arriving freely, the favorite being the yellow variety from the interior. Many, however, are green, unattractive fruit, seldom commanding maximum quotations. The clean, ripe stock is quickly taken, however, at prices often in excess of quotations. Bartlett pears are improving in quality and in demand. Stock suitable for immediate consumption is freely taken by retailers at improved prices. Apricots are in light demand, and but few sold above canners' prices, although some exceptionally fine stock in baskets, commands maximum quotations, given below. Apples are shading slightly in prices, and much finer stock has been received. Some extra fine stock commands prices above quotations. Plums and prunes are in full supply, and the prevailing prices are easy and unsteady. Some bulk lots have sold as low as $17.50 to $20 per ton. Watermelons are coming in from the interior, and have shaded materially in price during the past week. The present indications are of no more immediate slump in prices. Canteloupes are still declining. Nutmegs equally weak. Nectarines are the latest favorite, and do not command very high prices. The receipt of berries has been ordinary. Espcially fine lots command high prices. Citrus fruits are in very slight receipt with vary small demand. Lemons are very weak, and limes offered below quotations.

DECIDUOUS FRUITS.—Apples—Per box, common to choice, 50@85c; fancy, $1@1.25; Crab Apples, per box, 30@60c.

PEACHES—Per box, 35@65c; basket, 50@75c.

PEARS—Per box: No. 1 Bartlett, $1@1.25; common, 40@75c; bulk, per ton, 25@32.50; other varieties, 30@60c; basket, 25@50c.

PLUMS—Per box or crate, 25@60c; basket, 25@35c, according to variety.

CHERRIES—Per box, nominal.

PRUNES—Per box or crate, 40@65c; basket 40@60c, as to variety.

FIGS—Per box, 25c@$1.

APRICOTS—Per box or crate, 40@65c; bulk per ton, $25@35.

CANTALOUPES—Per crate, $1.25@2.

NUTMEG MELONS—Per box, 75c@$1.50.

WATERMELONS—Per 100, $5@20.

GRAPES—Per crate, Seedless, $1@1.50; Blacks, 75c@$1; Fontainbleau, 50c@$1.

NECTARINES—Red or White, per box or crate, 50@85c.

BERRIES—Per chest: Strawberries—Longworth, $6@8; large varieties, $2.50@2.75; Blackberries, $2@4; Raspberries, $3.50@6; Logan Berries, $2.50@4; Huckleberries, per lb, 10@12½c; Currants, per chest, $4@6.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, $1.75@2.50, as to quality; Valencias, $1.75@$2.75; St. Michaels, $2@2.75; Seedlings and Mediterranean Sweets, $1@1.50; Lemons, $1@3; Grape Fruit, $1@2; Limes, $4.50@5.

Vegetables are in better receipt than heretofore this season, but the demand is not strong. Thre is a heavy over supply of both summer squash and cucumbers, and market on this product much shaded. Tomatoes are easy, while fancy lots command top quotations. Green chillis have continued the low prices, and are very plentiful. Green corn received in abundance, though the demand cleans up the market quickly. Potatoes are slightly steadier under lighter receipts, but there is no material marking up of quotations.

VEGETABLES—Asparagus, per box, $1@2.25; Tomatoes, per box or crate, 40@65c; do, river, large box, $1.25@2; Green Peppers, per box, Bell, $1.25@1.75; Chile, 75c@$1; Dried Peppers, 6c; String Beans, per lb., 2½@4c; Wax, 2½@4c; Liman Beans, 7@8c; Green Peas, per lb., 3@4c; Egg Plant, per box, $1@1.50; Summer Squash, per box, 40@75c; Cucumbers per box, 40@65c; Garlic, per lb., 2@3c; Green Corn, per sack, $1@1.50; crate, $1.25@1.75; Okra, per box, 65@90c.

ONIONS—New Silver Skins, per ctl., 50@70c.

POTATOES—Per ctl.: New Whites, per box, 55c@$1.50; per sack, 60c@$1.10; Early Rose, 75c @$1; Garnet Chile, $1@1.15; old Oregon Burbanks, $1.25@1.50.

Regarding the local prune situation the San Francisco Chronicle says:

Dried Fruits, Nuts, Etc.

The interesting feature in the Dried Fruit market at present is the sharp competition of both local and Eastern dealers to close contracts with foreign buyers of Prunes for October delivery. The Eastern operators are offering to deliver new crop stock by October 1st at about the quoted basis prices, while the local brokers demand the maximum quotation and until the end of the month for delivery, claiming it impossible to deliver new stock before that time. The foreign buyers have taken some note of the latter claim and are now skeptical in closing deals with the Eastern dealers, fearing they will substitute old-crop stock on them. The German steamer Herodot, sailing on Friday for European ports, will carry some 200 tons of old prunes of small size for various foreign markets.

In other new fruits business is still slow and uninteresting. Apricots are claiming but little attention and the small lots of spot stock now offering meet with a purely jobbing sale. Honey is very scarce and rules firm at full figures. General prospects are for a small crop and high prices this season.

DRIED FRUITS.—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1902 crop are, per lb., as follows:

Apples—Evaporated, 4@6½c; Sun Dried, 3@4c.

Apricots—Royal, choice to fancy, new, 6¾@8c; old, 6½@7c; Moorparks, choice nominal.

Peaches—4¼@6½; peeled, in boxes, nominal.

Pears—4¾@9½c.

Plums—Pitted, 4½@6c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2¼@2½c, with ½@1c premium for large sizes; new crop, 2¾@3c.

Nectarines—Whites, 4@5½c.

Figs—White, 5½@6c; Black, 5c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown, $1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—New Comb, per lb., White, 14½@15c; Light Amber, 13½c; Extracted Water White, 6½c; Light Amber, 6c; Dark Amber, nominal.

BEESWAX—Per lb., 32c.

Live Stock.

Moderate supplies and a low but steady demand continue the characteristic features in the local Live Stock market and previously quoted prices are well maintained for the various kinds of offerings.

Quotations are:

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@8½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb.: Fat Wethers, No. 1, 4@4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb: Hard grain fed, weighing alive 140 lbs and over, 6¼@6½c; weighing under 130 lbs, 6@6¼c; weighing 260 to 350 lbs, 5½@6c; rough, heavy, 5½@6c.

Hay and Feed Stuffs.

HAY—Prices on new Hay, per ton: Wheat, $10.50@13; Wheat and Oat, $10@12; Oat, $8@$11.50; Barley, $8@10.50; Clover, $8@10; Alfalfa, $9@10.50; Stock, $8@9.

STRAW—Good to choice, per bale, 45@60c.

FEED CORN MEAL—Choice grades, per

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50.

ton, $29@30.50.

GROUND BARLEY—Per ton, $22@23.

MIDDLINGS—Per ton, $27@30.

RICE MEAL—Mill price, $18 per ton.

BRAN—Per ton, $24.50@25.50.

CRACKED CORN—Choice quality, per ton, $30@31.

COCOANUT CAKE—Best quality: In lots of 10 tons and upward, $20 per ton; 5 tons, $20.50; small quantities, $21.

BEANS—Prices per ctl.: Large Whites, $3@3.15; small do, $3.15@3.30; Pea, $3.25@3.50; Lima, $3.45@3.60; Red, $2.90@3; Pink, $3@3.10; Bayo, $3.65@3.75; Blackeyes, $2.75@3; Red Kidneys, nominal.

Cereals.

WHEAT—New crop: No. 1 Shipping, per ctl, $1.38¾@1.40; choice, $1.41¼@1.42½; White Milling, good to choice, $1.47½@1.50.

BARLEY—New crop: Choice No. 1 Feed, $1.01¼@1.05; Shipping, $1.10@1.17½; Brewing, No. 1, $1.13¾@1.17½; Chevalier, nominal.

OATS—Feed, good to choice White, $1.22½@$1.32½; White Milling, $1.32½@1.37½; Red, $1.15@1.25; Black, $1.12½@1.17½.

RYE—Good to choice, per ctl., $1.10@1.15.

CORN—Good to choice, per ctl.: California, new, large yellow, $1.40@1.45; small, do, $1.65@$1.70; White, $1.40@1.45.

Hops.

The prices for new crop are 18 @20c per lb, according to quality.

Eastern Markets.

New York General Market.

CHICAGO, July 22.—The effect of yesterday's bullish government report stimulated the opening in wheat and caused some early strength. September was a shade lower to a shade higher at 76¼@76⅝, and sold up quickly 76⅞. On the advance, however, the pit traders sold freely, and support was lacking. The result was an easing off in prices, which was furthered later in the session by the unloading of long lines and by selling orders from St. Louis. September went down to 75⅝, where commission houses checked

the decline and carried the price back to ½ to ⅝c, the closing figures being 75½@75¾c. There was a good country and commission house demand for corn early on increasing reports of uneven crop, and the market showed strength. September closed steady with a loss of ⅛c, at 49⅞c, after ranging between 45⅝ and 50⅛c. Trade in oats was largely local, and prices were somewhat better. A continued support by local bulls on unfavorable crop advices saved the market from a severe break, and the close was at a gain of ¼c for September, at 32⅝@32¾, with a range for the day from 32½@33⅛.

Cash quotations were as follows: Flour was steady; No. 2 red wheat, 75@76⅛; No. 2 corn, 49¾; No. 2 yellow, 50¼; No. 2 oats, 39½; No. 2 white, 38; No. 3 white, 49¼; No. 2 rye, 52@53; good feeding barley, 42; fair to choice malting, 46@50; No. 1 flax seed, 90; No. 1 northwestern, 95½; prime timothy seed, 2.85; mess pork per bbl., 14.05; lard, per 100 lbs., 14.10; short ribs, sides (loose), 7.77½@7.80; dry salted shoulders (boxed), 8.12½@8.30; short clear sides (boxed), 7½@7⅝; clover, contract grade, 12.00@12.50.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	32,316	11,957
Wheat, bushels	93,325	114,250
Corn "	201,100	281,700
Oats, "	535,950	61,016
Rye, "	19,950	......
Barley "	49,500	......

On the Produce Exchange today the butter market was easy; creamery, 17½@19½; dairy, 15½@18; eggs, easy at mark, cases included, 11@13; cheese, firm, 10@11½.

Chicago Live Stock.

CHICAGO LIVE STOCK MARKET.

CHICAGO, July 22.—Cattle—Receipts, 19,000; market steady; good to prime steers, 5.20@5.55; poor to medium, 4.25@5.15; stockers and feeders, 2.50@4.60; cows, 1.60@4.50; bulls, 2.25@4.35; calves, 2.50@6.40; Texas-fed steers, 3.50@5.00. Hogs—Receipts today, 22,000; tomorrow, 23,000, left over, 1800; strong, 5c higher; mixed and butchers', 5.35@5.82½, good to choice heavy, 5.60@5.75; rough heavy, 5.20@5.55; light, 5.40@5.50;; bulk of sales, 5.50@5.70. Sheep—Receipts, 18,000; sheep steady, 10c higher;; good to choice wethers, 3.75@4.10; fair to choice mixed, 3.00@3.75; western sheep, 3.25@4.25; native lambs, 4.00@6.35; native lambs, 4.00@6.35; western lambs, 5.50@6.00.

California Dried Fruits.

CALIFORNIA DRIED FRUITS.

NEW YORK, July 23.—The market for evaporated apples is quiet, and prices are without material change. Common are quoted at 4@5½; prime, 5¾@6; choice, 6¼@6½; fancy at 6¾@7½. Prunes are unchanged, ranging from 3@7c for all grades. Apricots are steady to firm; choice, 7¾@8½; fancy, 10@12½. Peaches are steady; choice, 7@7½; fancy, 8@10½.

CITRUS MARKETS

ORANGE MARKET.

The market the past week in Eastern auctions has been cleaning up the last of the heavy shipments and is showing a steady front with higher prices, especially for fancy, sound stock, but there is little life in trade on the heavily decayed, poor quality seedlings and sweets. The suplies in sight are extremely light and should stimulate prices on anything desirable. Fancy Valencias are in demand at very satisfactory prices for this grade.

Trading in the West has been light but at fair prices, anything in good quality, seeds and sweets, having the preference on account of prices being considerably lower than Valencias. The volume of fruit being handled is not large, as might be expected at this times of year, with a large amount of deciduous fruit being handled.

LEMON MARKET.

Lemons have remained fairly firm at satisfactory prices especially in West, but cooler weather is having the usual effect in some sections and the West is not able to take all Calinias en route. Prices on foreigns have remained fairly firm on good stock, especially 300s. The last of foreign shipment for the season as usual showing heavy run of 360s and smaller.

Shipments of citrus fruits from Southern California for the season, from November 1, 1902, to date are 20,743 carloads, of which number 2270 carloads are lemons.

NEW YORK, JULY 16.

A. C. G. Fr. Ex., Red Shield Valencias, 5 per cent decay, $2.90.

O. K. Fr. Ex., Quail navels, $1.70. Owl navels, 15 per cent decay, $1.65.

C. U., Riverside, Turquoise seeds, 15 per cent decay, $1.60.

C. U., Riverside, Our favorite Mikes, 5 per cent decay, $3.00. Snowball Mikes, 7 per cent edcay, $2.55. Our Favorite Sweets, 1 per cent decay, $2.40.

C. U., North Pomona, Lilac seeds, 35 per cent decay, 80c.

C. U., Lindsay, Amethyst Valencias, 10 per cent decay, $1.60.

C. U., Pomona, Peacock Valencias, 15 per cent decay, $2.45. Lilac seeds, 20 per cent decay, $1.30.

BOSTON, JULY 16.

Market weak.

C. U., Riverside, Daisy sweets, 10 per cent decay, $1.60.

C. U., Redlands, Clover Valencias, $2.40.

C. U., Riverside, Daisy sweets, 15 per cent decay, $1.60. Extra Choice Mikes, $2.40.

Riverside Fr. Ex., Blue Globe seeds 20 per cent decay, $1.60. Red Globe seeds, $1.45.

PITTSBURG, JULY 17.

Market on oranges steady. Lemons stronger and advancing.

O. K. Fr. Ex., Owl Valencias. $2.30.

Riverside Fr. Ex., Red Mountain seeds, 12 per cent decay, $2.10.

S. S. Fr. Ex., S. S. Navels, $1.90. S. S. sweets, $1.70. S. S. Valencias, $3.25, 15 per cent decay.

Q. C. Fr. Ex., Royal sweets, $1.75. O. I. C. sweets, $1.20. Royal Jaffas, $1.55. O. I. C. Jaffas, 95c; 30 per cent decay.

PHILADELPHIA, JULY 17.

Market weak on seedlings on account condition of fruit. Good Valencias wanted.

Riverside Fr. Ex., Red Globe seeds, 10 per cent decay, $1.45.

D. M. Fr. Ex., Violet navels, 20 per cent decay, $1.25.

Riverside Fr. Ex., Red Globe seeds, $1.15. Blue Globe sweets, $1.55. Red Globe sweets, $1.15; 20 per cent decay. Blue Globe lemons, $3.80.

BOSTON, JULY 17.

Market weak.

O. K. Fr. Ex., Bear navels, 7 per cent decay, $3.20.

Riverside Fr. Ex., Red Globe sweets, 10 per cent decay, $1.70.

NEW YORK, JULY 17.

C. U., Riverside, Turquoise seeds, 20 per cent decay, $1.40. Seal seeds, 15 per cent decay, $1.60.

C. U., Colton, Angel sweets, 15 per cent decay, $1.70.

Riverside Fr. Ex., Blue Globe seeds, 10 per cent decay, $1.80. Red Globe, 15 per cent decay, $1.45.

Riverside Fr. Ex., Eagle Mikes, $3.05. Eagle sweets, 7 per cent decay, $1.90. Eagle Valencias, 7 per cent decay, $1.80. Standard Valencias, 5 per cent decay, $1.55.

CINCINNATI.

S. B. Fr. Ex., Floral sweets, 7 per cent decay, $1.95.

S. S. Fr. Ex., S. S. Choice lemons, $2.40. S. S. Standard lemons, $2.15; 12 per cent decay.

CLEVELAND, JULY 17.

Riverside Fr. Ex., Red Globe seeds, 10 per cent decay, $1.95.

S. B. Fr. Ex., Yacht sweets, 5 per cent decay, $2.05.

NEW YORK, JULY 20.

Valencias wanted when fancy. Market strong on sweets.

A. C. G. Fr. Ex., Blue Seal Valencias, 5 per cent decay, $4.40. Blue seal lemons, $3.10. Red Shield lemons, $2.80.

Riverside Fr. Ex., La Mesa Mikes, $3.20. Golden Rule Mikes, $2.80. La Mesa sweets, 7 per cent decay, $2.30.

S. A. Fr. Ex., Harmony Mikes, $2,70. Pet Mikes, $2.40. Pet bloods, 10 per cent decay, $2.20; Meteor Bloods, 7 per cent decay, $2.10.

Arlington Hgts Fr. Co., Squirrel Mikes, $2.05. Palm Tree Mikes, 5 per cent decay, $2.55. Palm Tree Valencias, 90 cents.

C. U., Riverside, Turquoise Mikes, $3.25. Our Favorite, 3 per cent decay, $2.85. Daisy Mikes, $2.70.

C. U., Lindsay, Mistletoe Valencias, $2.05. Amethyst Valencias, $1.40.

C. U., Riverside, Seal orchard run Mikes, $2.60. Turquoise Mikes, $2.70; 5 per cent decay.

PHILADELPHIA, JULY 20.

Good Valencias wanted.

S. T. Fr. Ex., Echo Valencias, $2.25. Arroyo Valencias, $2; 10 per cent decay.

C. U., Rialto, Excelsior sweets, $1.80. Marguerite sweets, $1.40, 7 per cent deay.

Riverside Fr. Ex., Blue Globe seeds, $1.55. Red Globe seeds, $1.40; 10 per cent decay.

BOSTON, JULY 20.

Market is steady.

C. U., Redlands, Lion Head Valencias, $3.15.

S. A. Fr. Ex., Pet Mikes, 5 per cent decay, $1.95.

C. U., Rialto, Excelsior sweets, 10 per cent decay, $1.60.

S. F. Fr. Ex., Whittier Valencias, 10 per cent decay, $2.55.

PITTSBURG, JULY 20.

O. K. Fr. Ex., Special Owl Valencias, 5 per cent decay, $2.10.

C. U., Lindsay, Excelsior Valencias, $2.50. Amethyst Valencias, $1.90; 5 per cent decay.

S. S. Fr. Ex., S. S. Valencias, 2.90. S. S. Mikes, $3.10.

S. S. Fr. Ex., S. S. Standard sweets, 20 per cent decay, $1.45.

Riverside Fr. Ex., Blue Globe seeds, 25 per cent decay, $1.50.

Riverside Fr. Ex., Red Mountain seeds, 25 per cent decay, $1.15.

CLEVELAND, JULY 20.

Market weak.

San Diego New Century Valencias, 3 per cent decay, $2.90. El Capitan, $2.45. New Century lemons, $3.60.

C. U., Santa Ana, Texas sweets, 15 per cent decay, $1.75.

C. U., Upland, Mallard lemons, 10 per cent decay, $2.25. Lilac, 20 per cent decay, $1.90.

Riverside Fr. Ex., Blue Globe seeds, 15 per cent deacy, $1.55. Red Globe seeds, 20 per cent decay, $1.40.

CINCINNATI, JULY 20.

Weather warm, market weak.

Riverside Fr. Ex., Red Globe seeds, 12 per cent decay, $1.35.

NEW YORK, JULY 21.

C. U., Colton, Angel sweets, $1.95. Blossom, 10 per cent decay, $1.70. La Belle, 10 per cent decay, $1.40.

C. U., Riverside, Our Favorite Mikes, $2.70. Snowball, 10 per cent decay, $2.20. Turquoise Mikes, 7 per cent decay, $2.25.

C. U., Sanger, Amethyst Valencias, $1.60.

Q. C. Fr. Ex., Leander navels, 20 per cent decay, $1.40. Monogram navels, 30 per cent decay, $1.05. Southland Beauty bloods, 15 per cent decay, $1.80. Leader, 20 per cent decay, $1.30. Monogram bloods, 15 per cent decay, $1.20.

BOSTON, July 21.

Market is steady.

S. A. Fr. Ex., Indian Hill Mikes, $3.05. Volunteer Mikes, $2.30. Volunteer seeds, $2.30. Foothill sweets, $1.90.

Los Angeles, Cal., June 30, 1903.

The following named children have been received in the Boys' and Girls' Aid Society Home since April 1st.

Half orphans: William Higgins, male, aged 11 years, light hair, blue eyes; Harry Higgins, male, aged 10 years, light hair, blue eyes; Rowland Higgins, male, aged 8 years, light hair, blue eyes; Harry Higgins, male, aged 6 years, light hair, blue eyes; Ruby Higgins, female, aged 4 years, light hair, blue eyes; Peppa Bailey, female, aged 8 years, black eyes, dark hair; Roberto Bailey, male, aged 4 years, dark hair, black eyes; Gertrude Chapman, female, aged 6 years, dark hair, black eyes; Chester Garwood, male, aged 9 years, light hair, blue eyes; George Garwood, male, aged 11 years, light hair, blue eyes.

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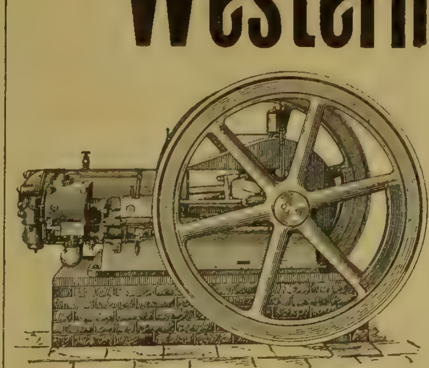

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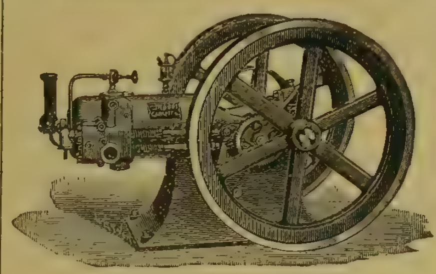

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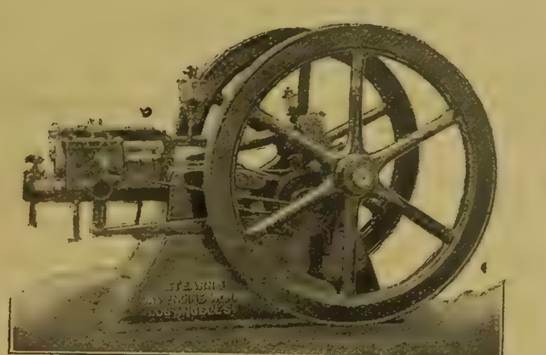

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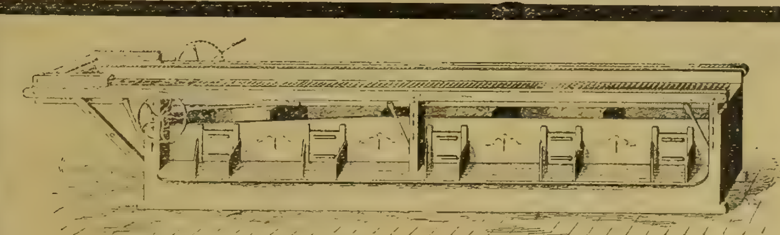

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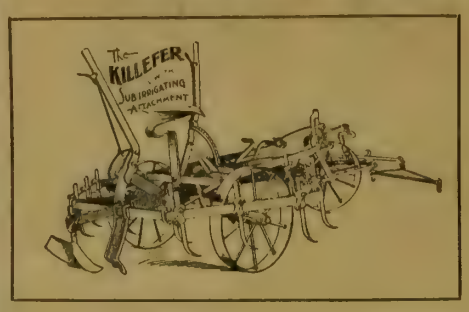

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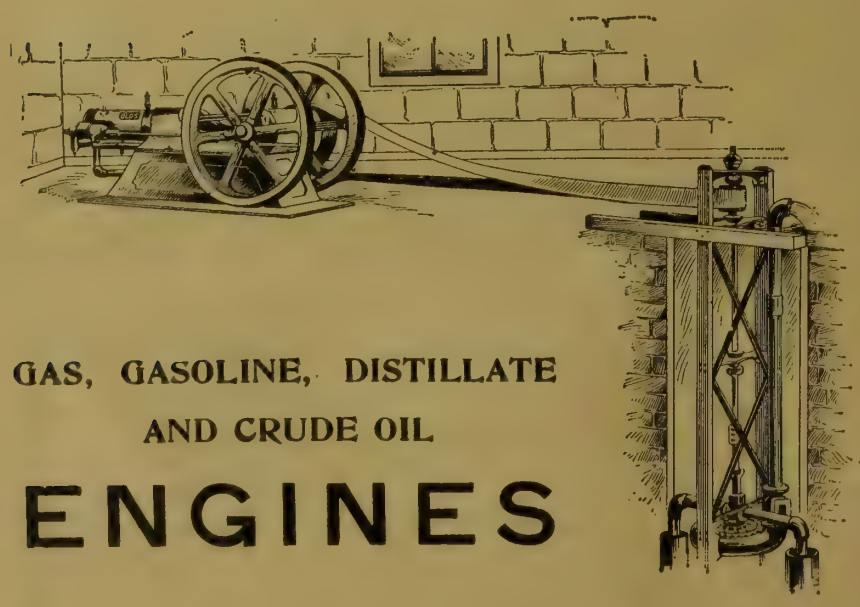

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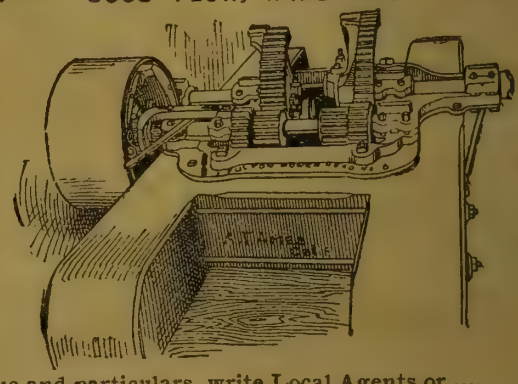

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 5 LOS ANGELES, CAL., FRIDAY, JULY 31, 1903 Subscription $1 a Year

QUALIFICATIONS OF A DAIRY COW

BY MRS. MINNIE E. SHERMAN OF FRESNO

Scientific dairying, as to the feeding of the cow and the handling of her product, has been the outgrowth of the specialized work of the dairy school experts. While the creamery man, with his manner of paying as little as possible for what the cows produce, has made the dairyman take out his pencil and learn to figure exactly what the cows do earn; so he has, by calculating, brought the keeping of the cows down to a business basis.

The first historical mention we have of the importation of cattle is that they were brought by the Europeans to Mexico about the year 1525. The mild, equitable climate and the abundant grass covered ranges caused them to multiply rapidly, and they soon covered not only the plains of Mexico, but those of Texas and California, with their offspring.

The first improved cattle came to Virginia from Holland in 1625, and were of beef and milk form. The oxen were powerful animals, plowing the new lands, while the cows furnished a small amount of milk for the settler's family. The first cows used solely for milk were brought from Normandy to Quebec by the French emigrants. It is said that these yellow, dun and silver gray Normandy animals enter largely into the foundation strains of both the modern Island Jersey and the brown Swiss cattle. They were of medium size and gave a fair quantity of milk, while the oxen were large enough for plowing in a hilly country, like Canada and New England.

However, the dairy cow was, as yet, of little value in the eyes of the farmer, for as late as 1825, at a Massachusetts county fair there was no class for cows or for butter or cheese; but there was the surprising entry of 100 yoke of oxen competing in feats of strength and docility. I wonder if there were some old men there to croak at that county fair as an ox show, just as we croak today that our fairs are mere race horse matinees.

The beef strain is very hard to breed away from; even in the fifth and sixth generations of cows it often crops out when cows are fed for heavy milk production. Many a good grade cow has slipped off into beef when 5 or six years old, causing a loss—for it does not pay to fatten a beef on dairy rations. When we consider a good cow should produce 350 pounds of butter, worth, say 25 cents a pound, or $87.50 in a year, it is indeed, killing the goose that lays the golden egg to sell her for cow beef at $30 to $40. You see, we do not believe in the general purpose cow, though it may seem presumptious, for she has prominent advocates but then, "seeing is believing," and we have never seen one.

Now, in selecting a cow for dairy use, one of the principal points is the stomach; it should be large and somewhat pendant—never set flush with the backbone, but always leaving a ridge. The stomach should suggest that the digestion is ample, and that the consumption of food can be pushed heavily, and yet a margin of reserve force remain, for the drain from the heavy milk flow should be urgent, and her appetite constant if she is to continue in profitable milking for the entire year.

Draw an imaginary line directly across the cow's body in front of her udder. First of all, notice if ample breeding power is indicated by the width of her pelvis. The hips should be high, the thighs wide and encurving well; a strong, rugged backbone, with a distinct rise at the rear, so as to make the animal taller at the rump than at the shoulder. This rise should be gradual, and in improved breeds is rarely a rough, disfiguring hump. The tail should be long and slender and set high enough to carry out the high line of the pelvic arch. She should be thick through in front of the line to give ample room for heart and lungs. with a large navel and well developed milk veins, with a skin soft and full of oil. The head and neck should be fine and feminine, the breast without brisket or dewlap. The eye clear, prominent and full of gentle intelligence, while the under jaw should be strong and rather short. The spare hind quarters of the dairy cow have grown lighter and lighter in the years past.

The teats should be well placed and of convenient size and shape, neither too large nor too small, and far enough apart to be easily milked dry. The two small rudimentary teats behind the four regular ones are a good indication for milk continuance in a cow. The Swiss say that they indicate a cow will transmit her quality as a milker to her offspring.

The elaboration of milk by the cow is a physological mystery about which little is definitely known. The alliance between blood supply and the milk shows, however, to have a copious supply of milk, there must be a correspondingly generous supply of blood. The blood flows from the heart to the udder, and passes into the milk veins, and back through the milk wells, near the forelegs into the body, returning again to the heart and lungs. The milk veins show by their size and engorged condition the amount of blood they carry. The milk wells should be large enough to admit easily the second finger of a man's hand.

The front part of a cow's udder is often less well developed than the rear portion. Here is a loss in milk greater than is commonly recognized. Some years ago Prof. Plumb found in 13 cows deficient in the fore part of their udders, that the hind teats gave 57 per cent more milk than the front ones.

As to how long a cow should be retained in the herd, each must decide for himself; but I am satisfied that many people sacrifice their cows by selling too soon, as they are afraid the cow will become too old for the butcher. I have kept many cows until they were worthless for beef and thought that it paid rather than to lose a year or two of good milk. The mature cow has outgrown the likelihood of milk fever and garget, and has shown she possesses good lungs and a good digestion and that her disposition is good. We have had cows eighteen years old that made 350 pounds of butter in a year. By the records of 486 cows kept for seven years, the age of greatest profit in a cow's life is from six and a half to fourteen years old. The Holland government tested a large number of cows to find at what period of cow's life the milk contained the greatest amount of butter fat. The period was fixed as from the seventh to the eighth years, and that in a healthy, well fed cow the milk capacity increased up to the twelfth year, the flow remained stationary until the fifteenth year, when it usually decreased until the cow became farrow.

The selection of a pure bred sire to head a grade herd is wise.

This sire should be a good individual, strong in his race type, with a backbone as rugged as the ridge of a continent, without brisket or dewlap; a distinctly masculine head, with a good, mellow skin. He should show rudiamentary teats and dairy form in his rear conformation. It is important, though often overlooked, that the dam of this sire should have a perfectly formed udder—for form of the udder is strongly transmittable, and each breed has a type of its own. The sire should have a lively sense of his own importance, and not be willing to be imposed on by rough handling. He should fight if cornered, for the gentle bull rarely imparts grit to the offspring, and endurance seems to be founded in temper. Listless, flabby people are amiable; so is a listless, inert bull. The very word, bully, should indicate his character; he should be ready to bluster and fuss at any infringement of the rights of his harem. It is better for the head of a grade herd to be a strong, typical individual than one whose dam is a phenomenal, record-breaking cow. There are many fine bulls sacrificed to the idea that nature will permit sudden great elevations of quality. Now, quality must be backed by the physical health of the animal; so, if we push quality before conformation, or correct form has been built up strongly, we are apt to lose health. Milk production is a heavy strain, and the animal must not only be physically educated herself to stand it, but must have inherited the acquired constitution from her dams.

Each sire used in breeding the herd should be more refined in type than his predecessor. We believe in each generation having fresh blood introduced, and do not believe in incestuous inbreeding.

Herd of Holsteins showing the famous cow Fidessa, raised by Mrs. Sherman; now the property of the Pierce Land and Stock Co.

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL.

BY CULTIVATOR PUBLISHING CO.

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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

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Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, July 31, 1903

Circulation this issue 9,000

FARMERS' INSTITUTES.

One phase of the work which the State University is doing in the interest of agricultural development of the state is giving a fine attraction at the little seaside town of Long Beach this week.

A farmer's institute, nothing more To many farmers, very many, that is meaningless, utterly so, never having attended and knowing nothing of its worth or otherwise. They have a vague idea that its some kind of a "meetin where the college fellers come and air their book larnin." But of course there is no interest in it for them. This is the case with many, nearly all the farmers about Long Beach. At one of the best sessions Prof. Cook, asked a show of hands of all Long Beach people, just four hands went up. Four people appreciated the treat freely given to them enough to come and listen. Many others traveled miles to the treat.

"But Long Beach is a resort and not a farming section!" But it is decidedly a farming community. Hundreds of productive little places within trading distance. Beautiful farm homes, berry fields, orchards, and dairies.

And four of them attended, That was early in the week. Later as it was noised about what they were missing the room filled up with an appreciative audience.

Six days of solid meat is giving those who attend a strong diet which it may take time to thoroughly assimilate, yet it will accomplish great good, directly to those attending, also to others who will get the inspiration at second hand.

Regarding the worth of the institute, we wish to quote from a speech of Prof. Latta of Indiana, made at Toronto, Canada, recently:

"The farmers' institute is but one of the many agencies for diffusing a knowledge helpful to agriculture. It has, however, a distinct place and a definite work. Agricultural papers widly disseminate this information, but it comes in cold type to many who have difficulty in understanding the printed page, and with no opportunity for questions and answers, which is so characteristic of the well conducted farmers' institute."

This question feature, was most prominent at Long Beach. The informality of it all brought the audience into close touch with speakers, and question after question is passed until a thorough understanding is reached.

Our legislative bodies should provide ample means for the organization and effecive maintenance of the work, and all who are responsible for the management of farmers' institutes should not only seek to secure intelligent, well balanced, thoroughly trained and effective speakers, but they should be ever really to employ the most feasible and effective methods of projecting and conducting the institutes.

For the first time, California institutes are supported with money, appropriated by our state legislature. Heretofore the state university has drawn from its funds to its injury. The last session appropriated $12,000 for this purpose, for two years. There are approximately a hundred institutes held each year. One-third about, of these are south of Tehachapi, under Prof. Cook's direction, and two-thirds, are north of Tehachapi. All are under the oversight of the state university with Prof. E. J. Wickson, as director.

The more effective work which the appropriation has made possible, should encourage to the continuation of the appropriation or its increase.

BENEFITS OF IRRIGATION.

Prof. E. J. Wickson of the State University is seeking for information as to the benefits of irrigation, to be incorporated by the U. S. Department of Agriculture into a report, which should be of great value to all on the Pacific coast. Prof. Wickson deems the best irrigation that which is secured from practical irrigators of experience. To secure that he has sent circulars and questions to irrigators over the coast to gather in the desired information. To give an idea of the scope of this work, we quote:

"I have undertaken to prepare for the U. S. Department of Agriculture an account of the advantages of irrigation in fruit growing on the Pacific coast. I wish to secure facts and conclusions from those who have experience and observations both with and without irrigation so that comparison of results by each method may be made.

The present plan is to collect information as to results in the amount, character, quality and market value of fruit produced by irrigation. The enclosed sheet of questions is merely to suggest lines of fact and judgment, which seem pertinent. You are hereby requested to either frame answers to these or to give facts in your own way as to whether you find irrigation an advantage or not and how this is shown in the product.

Photographs showing trees or fruits grown with irrigation and those for which no irrigation is used are earnestly desired in order that many significant pictures may be used in the report.

"Can you give weight or measure of the product of a single irrigated tree, or vine, or per acre? Compare with non-irrigated. Is there any difference in regularity of bearing? How do irrigated and non-irrigated fruits compare in size, flavor, aroma and general appearance? What has been your experience in shipping irrigated fruits or in selling to shippers? What has been your experience in canning irrigated fruits, or in selling to canners? What has been your experience in drying irrigated fruits, or in selling to driers? Has your irrigated fruit won prizes or awards at fairs or expositions? If so, when and where? Do you know of fruits or fruit trees or vines being injured in any way by irrigation? If so, in what respect?"

The Santa Ana "Leader" asserted that one of the greatest industries of that county is the Lima bean product. There are thousands af acres of beans, some of the largest being upon the great San Joaquin ranch. Ventura and other counties to the north better look out.

Raisin growers of Los Angeles and San Diego counties report one of the biggest crops of raisins ever promised.

EDITORIAL NOTES.

It is really gratifying to note the unanimity of both press and pulpit the country over in doing honor to the memory of Pope Leo. These expressions come from people of all beliefs, many of them at greatest variance with that of Pope Leo and his adherents. This shows a vast difference over that of a few years ago when a more intolerant spirit prevented many from seeing the good in those who did not believe as they did. The world does progress in its being tolerant and considerate of others, as well as in material growth.

The rigid ordinance passed by the Palo Alto authorities, as a result of the recent fearful scourge of typhoid fever, caused by the selling of milk from dairies in which disease lurked, while rather stringent, is only what every city should enact. The board of health is to make examinations of all dairies, grant licenses, where the proper conditions have been made. No one can sell milk without this license. The milk must be pure, unadulterated, and from healthy cattle. And there must be absolute absence of all communicable disease, both from those employed in the dairy and all those in the neighborhood. All diseases must be reported at once. A heavy fine and imprisonment will doubtless be meted out to the first violator of that law.

Farmers should bear in mind that any fruits or farm products of exceptional merit should be preserved and furnished to the committee in charge of the St. Louis exhibition. Messrs. Wiggins and Filcher are sparing no pains to make a magnificent showing for California this year. What they want is not freaks in the line of products, but fine perfect specimens.

W. A. Butterworth of Pasadena has been sued for damages because of the giving away of a small dyke, which he had erected to deflect storm water from his ranch to the street gutter. It was charged by the plaintiff, Mrs. Anna Austin of Pasadena, that the break released a quantity of water which, after crossing his land damaged hers to the extent of $299. The case came before Justice Klamroth of Pasadena, who awarded damages according to the request of the plaintiff. These ranches are both on hillsides above Pasadena, and the effort of Mr. Butterworth which proved so disastrous, may deter others from attempting to control storm water, if damages are to be awarded in case of failure of attempt. We understand Mr. Butterworth is to appeal the case, which may possibly secure a reversal of the lower court.

Since our recent reference to silos and to various feeds, we have had conversation with Geo. E. Platt, a Jersey breeder of this city, and it develops that Mr. Platt was one of the first to use silos. The silo was first used in France, and it was not known in this county until 1871, when a man by the name of Brown, translated a description of the silo for an eastern farm newspaper. J. M. Bailey, of Billrieca, Mass., saw this article and proceeded to build a silo, and make a test of the worth of this plan of preserving feed. Mr. Platt, at that time lived in Suffield, Conn., and his brother learning of it, went to see the manner of construction, and at once came home, and a silo was built in the side hill. The feed was then placed in the silo and Mr. Platt thinks his feeding preceded that of Mr. Bailey's by four or five days. It is also probable that Mr. Platt was one of the first to feed silage in California. He came here in '81, and thinks it was but a short time after that, when remembering the worth of this excellent feed when in the East, he first used a couple of cast off oil tanks for silos.

C. B. Boothe has returned to Los Angeles from New York after a few months spreading the gospel of irrigation and its benefits to the country at large. Mr. Boothe reports that the eastern merchants and manufacturers are realizing more than ever the great development which awaits the arid west, which may come from government aid to irrigation.

The Central Beekeepers' Association recently met at Hanford, and decided to send delegates to the National Convntion to be held in Los Angeles, August 18-20th.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

NEW FRUIT AGENCY.

Last week the Cultivator presented a copy of the agreement through which it is hoped by the prune growers of the north to effect a co-operative selling agency. Below will be found the contract under which it is proposed to operate:

CONTRACT.

This agreement, made this..... day of....., 190 , between ..... of ..... California, the party of the first part, and the Santa Clara County Dried Fruit Agency, the party of the second part;

Witnesseth That, whereas, the ..... are conducting the business of drying, curing, packing and shipping fruit; and

Whereas, It is desired to facilitate the sale of dried fruits when prepared for market; and

Whereas, The party of the second part is agent for said parties of the first part under the terms and conditions herein provided; and

Whereas, It is desirable and necessary at all times to have for sale fruits of the several kinds; now.

Therefore, In consideration of these premises, the party of the first part hereby appoints the party of the second part its sole selling agent, until the first day of July, 1904, upon the terms and conditions as follows, to-wit:

The party of the second part is to advertise the organization and their product throughout the various markets of the world by means of circulars, agents and such other means and to such extent as may be found practicable, and are to sell as far as possible f. o. b. for the highest price obtainable from time to time. In case f. o. b. sales cannot be made to advantage, shipments shall be made to, and sales effected through such authorized agents as may be appointed by said party of the second part.

The party of the second part shall have the absolute control as to selling of all products of the party of the first part.

In case of f. o. b. sales by the Board of Control, the said party of the first part shall have the right to transact all the business and collect the proceeds through its own office. In case where the fruit shall be shipped to Eastern agents for sale, the business shall be transacted through the offices and in the name of the said party of the second part, unless otherwise especially provided by the Board of Control.

To defray the expenses of establishing agencies, advertising and selling, there shall be charged, and the said party of the first part shall pay to said party of the second part, five per cent as commission on all f. o. b. sales, and one and one-half per cent upon the net proceeds of all consignments, and not later than July 1st of each year an account of all such receipts for commission and expenses shall be rendered to said party of the first part, and any excess of revenue over expenses shall be divided in proportion to the amount of sales. A deficit in the legitimate expenditures incurred by the said party of the second part shall be made up pro rata from each organization composing the Santa Clara County Dried Fruit Agency.

It is further provided that on the execution of this agreement the sum of $250 or such less sum as the Board of Control may decide upon shall be deposited by the party of the first part with said party of the second part to defray the expenses incurred in advance of sales, which amount shall be credited on account of commissions hereafter to be earned by said party as herein provided.

It is also agreed that the brand of the parties of the first part may be stamped on all goods shipped under this contract, and it is further agreed that the parties of the first part may be advised regarding the names of purchasers of each and every case of fruit sold under this agreement.

* * *

INVADING CALIFORNIA

Under the above head the New York

Fruitman's Guide announces what it calls the "choicest bit of news" that ever was. The invasion is from a new commission firm, whose representative is "heading straight for Riverside, and will possibly remain there permanently." Arthur Westfall is the invader whose advent is announced with such a blare of trumpets. Perhaps he may be just coming for his health, and not to take the business all away from the agencies. It is not the first time a commission merchant has nailed his banner to the mast in Southern California. Time was when the going or coming of a score of them excited no comment. They were not health-seekers in our midst ten or fifteen years ago, but they made the business of orange growing a candidate for a more healthy locality. But there arose a "new talk" from the orange growers who vowed by their mortgaged property that the time was ripe for packing these commission men off about the business of seeking other climes in which to operate, and "they sailed away, for a year and a day," or several of them. The new invasion may not be as tragic as the old one, but it will be of the same character. There may be a few orange growers who have not had the benefit of experience of observation who look with complacency upon the return of the commission system. Let them ask the first old-timer they meet or even a policeman, and he will tell them the conditions that had come over the orange business. Some people down in Orange County should ask to be "shown," also. Perhaps we may find opportunity to show them next week in these columns. Meantime keep your eye open for all kinds of plausible schemes that may be broached by those who have been dropped from the orange business for cause.

CROP REPORT.

Sacramento Valley—Weather clear and cool, but favorable to crops. Harvesting and threshing in progress. Wheat crop spotted, but will make an average crop. The cool weather retarded the ripening of deciduous fruits to some extent, but this will not be detrimental to the quality or yield, both of which are reported excellent. Heavy shipments of pears, peaches and prunes are being made from Sacramento and other places, and dried apricots are going to market in large quantities. Grapes continue in good condition and will yield heavily.

Coast and Bay Sections.—Cloudy or foggy weather prevailed along the coast and generally clear weather in the interior. The temperature was below normal in all sections. Harvesting, threshing and hay baling are in progress. The hay crop is not up to expectations, but is of good quality. Beans are doing well. Hops are said to be of superior quality, but the yield will probably be light; harvest will commence about August 25. Apricots are yielding better than expected and are of excellent quality. Apples will yield a good crop. Grapes in all sections are reported in splendid condition.

San Joaquin Valley.—Clear, cool weather prevailed during the past week. These conditions greatly retarded the ripening of fruit and melons. Grain harveting and threshing continue and the crop is fair. Cutting and drying of fruit are progressing. The peach crop is large and of excellent quality. Reports generally indicate a large grape crop, but in some sections there is complaint of mildew forming on the grapes. The outlook is good for a large orange crop.

Southern California—The weather during the week was favorable for crops, fogs in the coast districts benefiting beans and beets. Heavy crops of wheat, oats, barley and hay are being harvested in nearly all sections. Sugar beet harvest is in progress at Anaheim and Santa Maria; the crop is reported good. Late potatoes are being planted. The crop of mustard seed at Lompoc is turning out better than expected. Grapes in all sections are in good condition and will yield heavily. Oranges and lemons are progressing favorably.

Eureka Summary. — Harvesting, threshing and hay baling progressed rapidly. In the middle and southern portions of the county the yield of hay and grain is good; in the northern portion fair. Crops are generally better than expected. Some early apples are ripe.

Coast News and Notes

By R. A. Dague, 1045 Regent St., Alameda

J. N. Thompson of Bakersfield is preparing to plant a large date orchard in that vicinity.

Reports are again confirmed that the prune crop of Bosnia and Servia is largely a failure.

On the 17th 312,000 pounds of wool were sold at Great Falls (Mont.), for 17½ cents per pound.

The price of hay in the vicinity of Stockton is weakening. The price now runs from $7.50 to $9.00.

Thirty carloads of California fruit were destroyed in a recent train wreck near Lamar, Colorado.

A carload of Souvenir-do-Congress pears was last week shipped from Suisun to London, England.

Pears are a very short crop in the vicinity of Los Gatos. The fruit is covered with scale and is scabby.

The Santa Rosans are still enthusiastic over Lou Dillion, the mare that made her mile in 2.03½ at Cleveland, Ohio.

At the Santa Rosa weekly association public sale last week, sixty-two cases of eggs were sold at 25 cents per dozen.

W. H. Mills, of San Francisco, has been appointed Chief of Forrestry for the California exhibit at the St. Louis Exhibition.

It is now stated that the reports of assessors show that property in California has increased the past year $100,000,000.

Grasshoppers are doing damage in some parts of this state. Prof. Woodworth recommends the burning over of the infested territory.

O. N. Hirsch & Co. of Alameda will send to the St. Louis Exposition English walnuts which measure 5¾ to 6⅝ inches in circumference.

Pickle and vinegar works to cost $30,000 are to be erected at Haywards. The California Packing Company will operate the establishment.

Robert B. Nixon of Alameda county is producing raspberries of a very fine quality and size. Some of them measure 1½ inches in circumference.

The peach crop is reported as almost a total failure in Georgia, Alabama, Missouri, Illinois, Mississippi, Kentucky, Tennessee and New York .

Glanders is seriously afflicting the horses in parts of the state. It is especially bad in Butte, Glenn, Colusa and Tehama counties. One man lost 100 head this summer.

The hop harvest near Wheatland will commence Aug. 1. About 2500 pickers will be employed. The employes are trying to get white men and women to do the work.

All the counties south of the Tehachapi have united to make an immense exhibit at St. Louis. The counties of Central and Northern California are not yet so unanimous for an exhibit.

E. C. Horst & Co. of San Francisco estimates the hop crop of the coast as follows: Washington at 33,000 bales, Oregon 60,000, California 47,000, a total of 140,000, as against 175,000 last year

The Los Gatos Cannery has packed large quantities of cherries in barrels and gallon cans for repacking for maraschino and crushed cherries. This is the only cannery in the state making a specialty of this line.

Within the past week about one hundred carloads of Bartlett pears were shipped daily from Sacramento to Eastern markets. Peaches and plums are also going forward rapidly. The fruit is bringing good prices.

G. H. Lamberson, secretary of the Oregon State Board of Horticulture, in a late report estimates that there has been a deduction of fifty per cent on apples and pears and that cherries are not over 65 per cent of a crop. Prunes are still promising well.

Not only Fresno raisins are shipped to all parts of the world, but Fresno agricultural implements are sent abroad in large quantities. A large consignment of plows has just been forwarded to Ashton, South Africa

Prof. E. H. Twight of the Agricultural department of the State University has just returned from an inspection of the grape growing districts of Sonoma and Napa counties. He says that the prospects there were never better.

The pipe line of the Standard Oil Company from Bakersfield to Point Richmond, near Oakland, has been finished and tested. It is a success. The distance is 283 miles. It cost $6,000,000, employs 700 people and conveys 20,000 barrels of oil per day.

Mrs. E. F. Cole has on exhibition with the Oakland Board of Trade some jars of peaches which she raised from seedlings, which for size cannot be excelled in California. They are of fine flavor. She has given the fruit the name "Belle of Oakland."

While the apricot crop was light in other parts of the state, Sonoma county produced a good crop. The fruit was sold at $20 to $25 per ton. Peaches are also a good crop in this county, but Bartlett pears are poor. Grape growers are enthusiastic over their prospects.

The cheese manufacturers of this part of the state are watching a process being tried in Oregon of ripening cheese in tin cans, the curd being taken from the vat when ready for pressing and tightly sealed in the can. It is claimed that this process produces a quality and flavor that is very fine.

The hop growers of Oregon formed a co-operative organization and now W. A. Merkley, a large grower of Sacramento, announces that the hop raisers of California will soon hold a state convention and effect an organization, like unto that of Oregon, and work in harmony with the grower of that state.

It now transpires that the honey crop this year is very light—will in fact not be a third of a crop as compared to that of two years ago, from reports received by the California Honey Producers Association; from 4? producers it appears that they have only 4009 cases. The cause of the failure this year is attributed to cool, foggy weather.

E. A. Hugill, of Alameda county, is raising black figs that are probably not surpassed on this coast. A lady who has traveled extensively says she saw no figs in Italy, Smyrna or Egypt half so large nor any of such fine flavor as these. Some of the fruit is on exhibition at the rooms of the Oakland Board of Trade. Some of them are 5 inches in length and measure 4¾ inches in circumference.

The Tacoma (Wash.) News reports that the State Horticultural Commissioner has secured some fine specimens of fruit and vegetables—notably cherries, strawberries and rhubarb—for the World's Fair. Some of the stalks of rhubarb are six inches in circumference and two and a half feet long, and eighty-five mammoth cherries were counted on a single twig only 14 inches long. The cherries weighed four pounds, some of them being 3¾ inches in circumference. Nine large jars of the specimen fruits were put up right on the ground, the commissioner driving to the orchards with a wagon carrying the jars and necessary preservatives, and no time being lost in transferring specimens twigs from the trees to the jars.

A Watsonville fruit grower estimates that every blackbird on his place saves him annually five dollars by destroying fruit pests.

Reports from the state of Washington are that one of the biggest wheat crops the state ever had will be harvested this year.

The ranchers near Irwindale, Los Angeles county, are happy over the continuous flow of about 150 miners inches of pure water which they have struck.

The Watsonville "Pajaronian" asserted that during the height of the shipping season seven to nine cars of berries a day were forwarded from that locality.

Celery planting in the peatlands of Orange county is now in full swing. The acreage planted this year will be fully as large as last, and much of it will be for early delivery.

M. Theo. Kearney of Fresno, in an in an interview in New York last week asserted that the outlook for a big raisin crop at remunerative prices has never been more promising than this year.

Eighty acres of tomatoes were contracted for recently by the California Fruit Canners Association at Santa Rosa at $10 per ton. The crop comes largely from Healdsburg, Fulton and Windsor.

The National G. A. R. encampment is to be held at San Francisco August 18, 19, 20 21. The entire coast is making arrangements to give a grand welcome to the veterans who will visit the state at that time.

Insurance companies suffered a loss, which is now estimated to aggregate $150,000 by the recent disastrous conflagrations of Union Island, near Stockton. Between 7000 and 8000 acres of grain were burned.

The raisin pickers and laborers in packing houses of Fresno seem to be imbued with the union idea, and are demanding from seventeen and a half cents to thirty cents per hour for labor during the season. The growers and packers declare they will not pay it and may advertise in outside sections for more help.

GENERAL NOTES.

The trust has given another hitch to sugar, and marked it up 10 cents per hundred.

Cuba exported 569,300 tons of sugar during the first six months of 1903, exceeding the exports during the same period of 1902 by 244,000 tons.

There is a shortage of broom corn this year in Illinois, Missouri, Kansas, and Nebraska. Growers are asking $200 a ton for it.

The potato crop for the country this year, will be short, not so much because the crop is poor, but because there is less acreage. The entire acreage is 2,196,855 acres, or 49,000 acres less than last year.

The governor of Texas has offered a reward of $50,000 to any who shall discover and furnish practical means for the destruction of the cotton boll weevil.

The official reports from Washington show the corn acreage this year to be 90,000,000 acres, or four millions less than last year.

Hon. J. E. McComas of Pomona has been appointed patron of the Southern California Experiment Station at Pomona.

BETTER THAN ALL OTHERS.

Messrs. Brennan and Armstrong, the nurserymen of Pomona, send the following:

Pomona, Cal., July 6, 1903.

Publishers California Cultivator, Los Angeles, Cal.

Gentlemen: Enclosed find check to balance our account as per statement of July 1st, 1903. Kindly discontinue our advertisement in Cultivatior until further notice. Next season we expect to do some advertising and will give you a call. Please accept our thanks for all favors extended to us. Our ad. in Cultivator this season has given us more business than our advertising this season in all other papers. Yours truly,

Brennan-Armstrong Nursery Co.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C INSECTS
(Continued)

It will be remembered that we have studied the water-breathing Crustacia class with its lively Low bug and tipsy Cray fish. The needlessly dreaded Myiapods with their indefinite legs, the eight-legged spiders or Arachnids, with its three orders of tiny mites, dreaded through really harmless scorpions and very valuable spiders, and now are interested in true insects or Haxapods, the six legged Arthropods. These have always the six legs when mature, and always three well marked divisions of tne body. We have marveloped at their wondrous transformations, wherein the repulsive maggot, and the equally hated caterpillar become the beautiful, maybe gilded and irridescent fly or the universally admired butterfly or moth. We last studied their head-organs, and noted their structure and use, and observed that as with us, the most important organ of the animal—the brain was incased by the head.

Thorax—This is the second part of the insect body. Though usually quite distinct from the head, and the larger, longer abdomen, yet it itself has long lists of three distinct rings, or segments which are always more or less marked. Next the head comes the prethorax then the middle or mesothorax, and last or hindermost we find the meta-thorax. Each of these rings or points bears below a pair of legs. Thus we have the pro-thoracic, the meso-thoracic and the meta-thoracic legs. In other words the front, the middle and the hindermost legs. Each leg ismade up of from five to ten parts or joints. Thus we see that insects best typify our great Phylum or Branch Arthrapoda, which as we remember are jointed animals with jointed legs,and as we know, the very name Arthropoda means jointed legs. The largest leg joint takes the familiar name of femur, and the longest and most slender one is known as the tibia. The termnial joints numbering from one to five, and the parts which has the same function as does our foot as they rest flat on the ground as the insect walks, are the tarsi. At the end the foot bears two claws which enable the insect to hold to wood or other similar object. As the myriod bees cluster at swarming time, and hang as a great living cone or sphere, they use these strong claws to hold on, and thus sustain themselves, and hosts of others which are pendant beneath them. Between the claws we frequently find a soft glandular organ, which secretes a sticky substance, which enables the insect to adhere or hold to such objects as glass or plaster, which would resist even the sharpest, strongest and hardest claw. The legs are variously modified. In insects that are mostly on the wing and walk little, they are weak and slender. We notice this in most moths and butterflies. Indeed a whole group of butterflies have their fore legs so weak, that only the other four are of functional importance. Insects, like beetles, that walk more and often, and fly seldom or none at all, have long strong legs, while others like the locusts, grass-hoppers and crickets have very strong hind legs, and can jump or hop prodigiously. It is said that the flea can jump 600 times his own length. If so, he must be the champion athlete. The legs are also upon occasions, useful in digging, and grasping. The digger wasps and the ants use the legs to fashion their deep holes or long under ground tunnels.

There are but four wings, in one order only two. These are appended to the back or upper part of the mesothorax in case of one pair, and to the meso and meta-thorax in the more eommon case of two pair or four wings. The wings consist of a thin membrane stretched over a more or less complex frame-work of veins. In the lower orders, as in the lace wings—dragon flies and their relatives—and the locusts there are very many of these supporting veins. In the higher orders of flies; butterflies and moths; and bees, wasps etc., there are few strong veins. In some rare cases as in thrips and chalcid flies, these veins are often reduced to one, which gives a very simple wing. The wings in strong flying insects are very heavy and strong, while in the others like the thrips and gnats they are often like slender gauze or a mere film, and are nearly as dainty, delicate and beautiful as is the rain-bow's sheen. The wings are very characteristic in the several groups and are much used in classification especially in the higher orders.

There are insects in all orders, like the ants, the female canker worms moths, the sheep tick, Fuller's rose bettle, moth aphids, and all female scale insects; the common sand cricket, also called Jerusalem cricket, (though it belongs with the katay dids and is no cricket at all); and the curious white ants; which have no wings at all. From the complex thorax we feel sure that these insects all once had wings, but in their evolution were so environed that they failed to use their wings and so nature has whittled them off. Other inseets, like the podura or spring-tail, often seen in cellars and in other damp places never had any wings. We know this from the simplicity of the thorax. The study of fossils sustains these last two positions. There is a curious case of wing pruning in the ants. After the males and young queen fly forth to mate, the workers catch the queens and gnaw off their wings, and thus they are forever restrained from going forth, and are held resistlessly to home and duty. The bee keeper who clips a wing of his queen bee, that she may not hie forth with a swarm is only following the wise example of the worker ants.

(To be continued.)

* * *

FLIES AT MILKING TIME.

C. F. B. Thermal, comments on my method of managing flies at milking time. He thinks he has a better way. He keeps in a close covered lard or other pail a mixture of one pint of kerosene oil into which he puts a teaspoonful of pennyroyal. With a cloth just before he commences to milk, he touches the cow in several places with the mixture then rubs it well over. It takes but a little and protects the cow for the day. Surely I am glad of this receipt. I hope many will try it, and many grateful cows will be the result. Mr. B. says it takes but two or three minutes to apply this, and he feels sure it is far better and more convenient than my blanket scheme. I have tried such lotions, and wish to commend them. They are very desirable, but in my case have not been so successful or convenient as has been the burlap blanket. If this is made strong, it lasts a long time, is a most excellent protection, and needs no attention except adjusting the corner as one commences to milk.
I shall try the recipe of Mr. B. and report my preference.

* * *

PRUNING ORANGES.

Mr. A. J. Drothzen on the Peyton ranch of Highland, is quite at variance with the majority of our orange growers in the matter of pruning. He goes at it in a sort of heroic fashion, cutting out much of the center of the tree. He is an orchardist of long experience and his pruning, I am told is commended by several noted authorities.

Of late, the pruning of lemons has become quite common. Many believe it pays well to cut out the center, though in regions of frosts this is less popular of late, as the upper center protects the lower branches, if the cold comes, and may be cut off in case they are frosted. In the case of oranges I think the concensus of opinion is that little pruning is desirable. Most say only cut away dead branches and over ambitious suckers, that seem desirous to far outstrip their companions. Mr. D. thinks that, as with all other fruit trees, judicious pruning is ever to be advised. Owing to neglect, the pruning of the Peyton orchard is of necessity more radical. He feels sure that results will warrant his severe cutting.

I am glad that this experiment is in progress. It does seem strange that the orange should be the one tree that needs no aid from the "pruning hook." Mr. Peyton is able to conduct this experiment whatever its results and it may be well that some experiments will reform the general practice in this matter. I am glad that our friend Mr. Sessions is working with his olive orchard in the La Habra valley. I should feel sorry to see a less able man financially conducting such an experiment.

California Horticulturally...

John Isaac, Sacramento

THE SCUTELLISTA IS SPREADING

Very encouraging reports are being received as to the work of the new parasite of the black scale—Scutellista Cyanea. Mr. Graw has been carrying on a thorough investigation of the sections in which it has been colonized and he reports it as taking hold and increasing with great rapidity and as doing good work wherever it has obtained a foothold. At Montalvo and other places in Ventura Co., it is spreading over a considerable area, at several places in Orange Co. the parasite has spread from the trees in which they were originally located over the surrounding country. In some pepper trees at Pasadena, where the Scutellista were planted last September, nearly every scale contained a parasite. There is little question that this little insect, when it is once thoroughly established, will be a most effective check on the black scale. An idea of the rapidity with which it multiplies can be formed when it is known that only three live females were received in the original shipment from South Africa, a little over a year ago, and from these three several thousand have already been distributed to different parts of the state, and these have multiplied until we may consider them as thoroughly established, and it is now only a question of time before they overtake the black scale and reduce it below the danger limit. There is now every reason to hope that the day of the black scale as a pest is over, and that from now on it will be found in constantly diminishing numbers until the balance between it and its parasite is established. But there are two things that our orchardists who are troubled with the black scale can make up their minds to, there is no magic about this work, and the black scale will not disappear in a day. It may take a long time before the descendants of the three little flies that came from South Africa will increase in sufficient numbers to overcome the enormous hordes of black scale that cover the vegetation of the whole country, it will not be done in a day, as some of us seem to expect, and further, the Scutellista will never eradicate the scale, but in time will overtake it, and reduce it so that it will no longer be a serious pest.

* * *

DAMAGE FROM WINDS AND PEAR SCAB.

The heavy winds which visited the Sacramento valley the beginning of July and which it was feared had done very great damage to fruit in the section in which they prevailed, appear to have done less damage than was at first feared. Very much fruit was blown from the trees, but not enough to materially influence the total output, which in all classes of fruit is proving to be very fair this season, considerably exceeding the output of last year. In the hop yards it was feared that irreparable damage had been occasioned, but the vines have all been lifted up, and while there has been some little loss and some cost for putting down poles in shape again, the hop growers have not suffered materially. In the pear orchards along the river pear scab has been very prevalent and has caused the destruction of a very large percentage of the Bartlett pear crop in the principal pear section of the state. It will be well for the peargrowers in this section to take time by the forelock the coming season and spray for this disease during the dormancy of their trees next winter. The disease is one of the group of fungus diseases, the spores of which find lodgment on the twigs of the trees during the winter and awaken into activity as soon as the sap begins to flow in the spring, spreading to the new growth and especially to the young fruit. Its ravages may be checked by a thorough spraying with the Bordeaux mixture before the buds swell in the spring and the repetition of the operation later on. Pruning should be finished before the spraying is done and all prunings carefully burned.

* * *

DYNAMITE FOR TREE PLANTING

Horace Greeley, who prided himself on what he knew about farming once stated that the man who should invent a plow capable of turning over the soil to a depth of two feet would be one of the greatest benefactors of his race. Horace never thought of dynamite. But in this powerful explosive we have the means of doing much better than Greeley ever thought of. For ordinary crops, of course, no one would ever think of plowing with dynamite, but in preparing land for tree planting, it can be used to great advantage. All trees love a deep, friable soil, one that their roots can easily penetrate, and one that will retain the necessary moisture for their growth. If a newly planted tree finds a loose soil, easily penetrated by its roots, prepared for it, it will respond heartily and the first two years' growth will amply compensate for the labor involved. No argument is necessary to prove this point, as every orchardist is well aware of the stunting effect of shallow hardpan on trees planted on it. With half a stick of dynamite the ground can be loosened for a depth of 8 to 10 feet and for a radius of several feet. If properly handled there is no danger to be apprehended in the use of dynamite. For using it in orchard planting a crowbar, or in soft ground a two inch augur, which has been lengthened out with a seven-foot shaft, which any blacksmith can prepare, is used. With this tool a hole in the ground six feet deep should be made. Take a stick of dynamite and cut it in two with a piece of wood sharpened to a knife-like edge. Take a six-foot piece of fuse and insert it in a fulminating cap, then make a hole in the end of the stick of dynamite with a sharpened stick and insert the cap, tieing it in firmly so that it will not slip. Now drop it in the hole prepared for it, fill the hole with sand or loose soil and touch off the fuse. In rocky, or very harsh soil it may be necessary to use a whole stick, or even two, but in ordinary soil half a stick will do the work. The charge will stir up the ground for some distance below the bottom of the hole and shake it up on all sides for a distance of 15 to 20 feet. There is little danger from the explosion as the discharge will only heave up the surface a little and no earth is thrown into the air. Silo prepared in this way is more retentive of moisture and gives ample root room for the growing tree. In hardpan soil, preparing the land with dynamite will be found a most profitable investment for the tree planter.

NATIONAL BEEKEEPERS' MEETING.

The National Association of Beekeepers honor California this year by holding their annual meeting in the city of Los Angeles. The session will first convene on Auguust 18th and continue three days. It is said that it will be the largest and most representative meeting of beekeepers ever held in the United States, or possibly in the world. Many prominent eastern beekeepers will be here, and the local men are all planning to give them a pleasing reception.

Estimates of the coming wheat crop place the total for the country at 740,000,000 bushels.

The Yeas and Nays of Citrus Culture

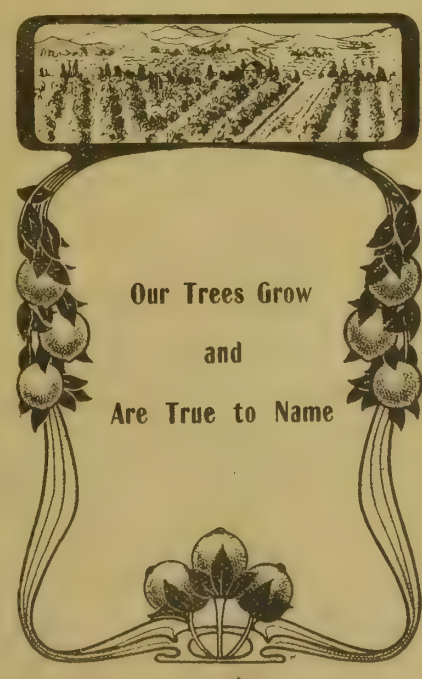
"Citrus Trees for the Million—a veritable sea of nursery trees in rows and going to intending planters everywhere."

1. A Plot of Citrus Trees on our Home Grounds. 2. A Daily Scene during the Shipping Season at San Dimas.

If you plant inferior trees, it makes little or no difference how fine your location is for citrus fruits; nor is it of much consequence if your soil is good and your water supply for irrigation ample, because badly-grown, weak and untrue-to-name nursery trees can never grow a profitabie orchard, even under the most favorable conditions. An experience of upwards of twenty years in the growing of citrus trees exclusively has demonstrated this fact so forcibly that we never buy trees from other growers, but sell only what we actually grow and warrant to be the best that skill, superior soil and climate can produce. That this policy—though at times losing an order because we happen to be shy on certain varieties—is a winner is forcibly attested by the fact that that the San Dimas Citrus Nurseries are now the largest growers of orange and lemon trees in the world. "Value for value, and the best is none too good for even the small planter," are two principles from which we never deviate.

We now supply many of the best planters in all sections of the world where citrus fruits are grown with their nursery trees, and stand ready to serve many more in the same way. Orders going to Italy, Australia, South Africa, Porto Rico, Cuba, Mexico, the Philippines and the home trade all give evidence of satisfaction with our trees and methods of business. In view of this fact, may we not supply your wants also? Our booklet on the "Yeas and Nays of Citrus Culture" tells all about growing an orchard and also how and why we do and get business. A copy is yours for the asking; write for it today.

Our Business is a Growing One and Yours Will Be if You Plant Trees Grown by Us.



The San Dimas Citrus Nurseries

R. M. Teague — San Dimas, Cal., U. S. A.

By J. W. Mills, Ontario, Cal.

KHAMA MELON AGAIN.

Editor Cultivator: Will you please tell what the Khama melon is like, and if it is as good for stock feed as the Kansas melon? Subscriber, Santa Paula.

The Khama melon makes a good stock feed and is much more productive than the Kansas melon on poor sandy soil, but the latter produces more on good soil. The Khama melon will not keep long. It is small, averaging about 4 inches in diameter, but some vines have produced over 300 melons. We do not recommend it for planting except on dry sandy soil that will not produce other crops to advantage.

SISAL.

A subscriber wants us to tell through the Cultivator, something about the "new hemp plant" called Sisal, and if it can be profitably grown in Southern California.

Sisal belongs to the same family as our "century plant," whose botanical name is Agave Americana. Sisal is Agive rigida, of which there are two sub-varieties that are cultivated for the fiber in tneir leaves. It is not a newly cultivated plant by any means, it having been grown commercially for a couple of hundred years in certain parts of the tropics. It derives its name from the port of Sisal in northwestern Yucatan, from where is has been shipped in great quantities for several centuries.

The plants present about the same appearance as a century plant, except that the leaves are not so thick and fleshy, but longer in proportion to their thickness, on well grown plants, being from four to six feet long. They are smooth on the edges with sharp spines on the ends of the leaves which are a dark velvety green. A leaf six feet long will be but about five inches wide and half as thick at the base.

Its native habit being in the tropics, we naturally would think it would be very sensitive to frost, however, our experience at the Pomona station has been that if it can be pulled through the first two or three winters, it will not be materially injured by 24 degrees. It will not grow at all during cold weather and by the time it gets well started, cool weather is again with us, and as a consequence, our plants that are now six years old are not over 18 inches high. Had they been grown in their proper climate, they would have been at least six or seven feet high. Our plants are situated on the bank of a small irrigation ditch that is used at least once a week.

Florida began to grow sisal in 1836, and at this time the plant is widely grown over all of the state south of the frost line where the land is suitable for its growth. Nearly all of the important islands in the West Indies imported plants of sisal from Florida, consignments having been sent in recent years, to South Africa and tropical parts of Australia . In 1893, the Hawaiian government imported from Florida, 20,000 plants for experimental purposes. As a result, several companies with ample capital have been formed to pursue the industry, one plantation of 300,000 plants having been established last year.

There may be certain sections in Southern California which will grow sisal at a profit, but as yet we do not know anything definite about it. The most profitable plantations are situated in limestone soils in the tropics. It does not require much rain, but wants it often. In situations where light showers or even heavy fogs prevail, sisal thrives well. The root system is confined to within 18 inches of the surface, hence the need of frequent supplies of moisture. It does not take kindly to artificial irrigation except by sprinkling. It is said that it is imperative that the plants when grown in nursery form for future plantations, be sprinkled and not flooded. The shape and position of the leaves enable them to collect all water that falls over them so that it will run down to the ground at the base of the plant. The plant does not thrive with cultivation, due no doubt to its shallow root system. Irrigaion without cultivation will not be profitable as a general thing. The nature of the plant demands a moist atmosphere, as it gathers moisture for the roots from rain and dew as described, and also absorbs moisture directly through the leaves. The roots are very sensitive to moisture and soil conditions. Land that is lable to overflow is unfit for it, the roots being rotted by such treatment when the water is allowed to stand for some time. It is stated that the soils around Merida, the leading sisal producing district in Yucatan, are composed of arid, cavernous limestone, and that in the whole region there is not a single running stream. Mr. Chas. R. Dodge, writing in the Scientific American Supplement, says that the same region is barren of soil, the sisal plants often being propped in place by stones or stuck in crevices in the coral rock. It is from this section that some of the best grade of sisal fiber is exported. It shows that the climate has much to do with the proper development of the plant as does the soil. Proximately to the sea, high temperature with low rainfall are the climatic conditions required. These can no doubt be found in some of our coast regions where the foot-hills crowd close to the sea.

The young plants are started in the nursery from either bulbs or suckers. The bulbs are obtained from mature plants. They send up a flower stalk just as our century plants do and have exactly the same general appearance. No seed pods are formed, but in their place small bulbets grow. One stalk will produce from 2000 to 3000 bulbets. These fall to the ground and can be picked up and shipped or planted in the nursery. Rootstalks are sent out from the old plants and young plants come up from them also. These should be severed from the old plants at the time the latter are sending up a flower stalk, or they too will bloom.

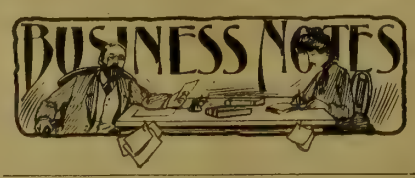
On poor soil, not less than 600 plants per acre are grown and on rich soil, not more than 900 per acre. Rocky rough soil is often used. Reports from Yucatan show that it is not advisable to make many plantings on the same ground. In 1832 they used to get a crop in two years after planting and the plants produced over 20 leaves per annum. In ten years the plants matured. Last year, the records show that no crop is realized until five years after planting, but 12 to 15 leaves are matured in a season, but the life of the plant lasts from 15 to 20 years. Each plant will produce about 250 leaves during its life time, making a yield of from 5000 to 6000 pounds of fiber per acre during ten years. Sisal fiber sells in the United States at 10 cents per pound. That would give a yield of from 50 to 60 dollars per acre annually. After the first year there is very little expense. The annual importation into the United States amounts to about $12,000,000. Sisal fiber is used almost entirely for making binding twine.

* * *

NEW BERRY PLANTS.

Editor Cultivator: I would like to know where I can get the Big Sheng raspberry and the Rogers dewberry? Could you inform me through your paper? Chas Inman, Campbell.

We do not know where either of these varieties can be secured. We advise you to put your order in the hands of some of the seed and plant men in San Jose, San Francisco or Los Angeles.



BUSINESS NOTES.

The present indications of a large crop of oranges for next season is already causing the citrus growers to cast about for some means of supporting the over-loaded trees. The past experience of ruin of valuable trees from large crops has been such that all careful growers wish no more of it. There has been devised a number of methods of supporting and saving these trees, none of which have been more effective than the old and reliable Woodward Tree Prop, which has been manufactured for the past thirteen years in Riverside. These props are a favorite for the reason that they are readily adjustable to a limb of any height, they are so made as to hold any weight which may be put on them, and may be stored in a very small space. They are so simple that no repairing is ever necessary and so constructed that several may be used on one support. The Woodward Company has recently moved to their fine new building in Riverside, and has installed a line of labor saving machines which enable the manufacture of this prop at a lower price than ever before. They give the benefit of this economy to the fruit growers and have reduced the price to $17 per thousand. Their present machinery enables them to produce 20,000 props per day, which, with the amount that they will have on hand at the beginning of the season will be such that they will be able to fill any order that may come in. With the present prospect of a big crop, it is liable to be a record breaking year for this company, although two years ago they put out over $14,000 worth in one season.

* * *

The California Iron Works of Riverside have just completed a shipment of a packing house equipment for an orange packing house in Porto Rico. The Porto Ricans seem to appreciate the portion of the country to come to for first class equipments. This company has equipped some of the most up-to-date packing houses in California, and with their new foundry and machine works, are prepared to install nearly any kind of packing house equipment.

Cocoanut Oil Cake

THE BEST
Feed for Stock
Chickens and Pigs

For sale in lots to suit. By

El Dorado Linseed Oil Works Co.

208 California St., San Francisco, Cal.
HENRY ALBERS, Agent, Los Angeles

THE "BOSS"
TREE PROTECTOR

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
24 inch long	15.00	per 1000
30 inch long	17.50	per 1000

Agents Wanted Everywhere

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Something New in Paint

"STAY-THERE"

Is mixed with water, nature's free gift. The cost of oil is therefore saved, the appearance is improved, and the lasting qualities equal.

Your Painting Bills Reduced 50 to 75 Per Cent

If You Want to Paint Buildings or Spray Your Trees,
See Our Spray Machines Before You Buy
PRICES FROM $6.00 UP. CALL OR WRITE OUR STORE
715 S. BROADWAY
AND LET US SHOW YOU.

CHAS. J. STONEHAM & CO.,
Pacific Coast Agents

"Stay There"

Largest Nursery
West of the Rocky Mountains

CALIMYRNA FIGS
(Genuine Smyrna Fig of Commerce)

The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOSANGELES, CAL.

AUGUST VEGETABLE CALENDAR.

Next month is one of harvesting rather than sowing among the vegetable growers; though as stated by Prof. Mills about two weeks ago, this is a splendid time to plant potatoes for a late crop.

It is also in order to plant during August: Beets, cabbage (early sorts), carrot, cauliflower, lettuce, onion, parsnip, peas and turnip.

* * *

NATIVE SUNFLOWERS.

Almost every one is familiar with the common annual wild sunflower though few are aware that the skillful horticulturist has evolved from it the large sunflower of our gardens. Its scientific name, Helianthus annuus, literally translated means "Annual Sunflower." This must not be taken for proof that it is alone in this respect, for we have at least one other annual species, (H. Bolanderi) which is quite a pest in the grain fields in the Sacramento valley.

We have several other sunflowers native to California, all are perennial

Helianthus Oliveri, One-Third Natural Size.

rooted and of greater horticultural interest than the annuals. Some grow on the dryest hillsides, while others, like H. Californicus, inhabit the banks of the streams. The one illustrated on this page is of unusual botanical interest for the reason that is is nearly if not quite extinct. Its only habitat was the Cienega swamp between University station and the sea, where it has been exterminated by drainage, and a swamp in East Los Angeles, lately filled by the S. P. R. R. Co. This species, known to botanists, as H. Oliveri, is very different to tell from H. Parishii; the latter occurs only at San Bernardino and Mr. Parish says they are too close to separate. Both grow from six to fifteen feet tall and have large clusters of really showy heads and are fine plants for a damp spot where a tall background is desirable. The roots are perennial, quite fleshy and tuberous and may be found dormant from autumn to early spring. Every public garden (and many private ones) in the state should make an effort to secure roots of this Los Angeles species, if it is not already extinct, but unfortunately such places are seldom in charge of plant lovers, but filled rather by those who have a pull, so we can but say: "Farewell, Helianthus Oliveri!"

* * *

RESTING ROSE BUSHES.

Roses that have been established for one or more years should not be given any water until autumn. Do not be alarmed, even though they drop their leaves. It is perfectly natural for all roses to become dormant at some season in the year and the only wonder is that our bushes do so well with such a great amount of overwork. Even though all the wood smaller than a lead pencil shrivels, the plants are not harmed, though when they reach such a stage they should be pruned very heavily, watered and two or three weeks later, fertilized. Such treatment will result in an abundant winter's crop of superior roses.

* * *

"FLORA AND SYLVA."

The above is the title of a new floral magazine, now in its fourth month, published in London, England Each issue contains forty pages on hand-made paper, two-colored plates and a number of excellent wood-cuts. It is edited by William Robinson, author of "The English Flower Garden," a noted work by one of the greatest gardeners the world has ever seen. Though this magazine is a very high-grade publication, its price of eight dollars a year really seems on a still higher plane (financially).

* * *

FERN SCALE.

"P. Culiar, of Ventura, one of the most frequent and appreciative correspondents of this department, sends a frond of a potted fern covered with scale and wishes to know what best to do.

The scale had been almost crushed to dust in the mail but a close examination seems to fix it as the hemispherical scale and we are sorry to state that it is very troublesome to get rid of unless one can fumigate their plants. We would advise cutting off all the fronds, rinsing off the remaining stump with strong soap suds, but being careful not to get too much soap in the soil. If the stump is looked over first and all scale removed and the plant is carefully examined once a week for the first month after starting anew, no trouble from the scale will ensue, unless you have other infested plants from which the pest may come.

FREE We are going to give away, to the readers of the "Cultivator," a limited number of THE SULPHESIA CUPS, so that one or more is placed in every community, absolutely free of cost. These wonderful health-giving cups make a delightful Mineral Water in two minutes, and keep the system in perfect health. Write at once for Cup and particulars. Agents wanted. The Traders' Association, Los Angeles, Cal.

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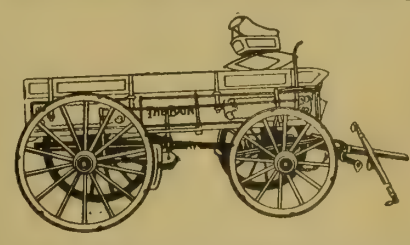

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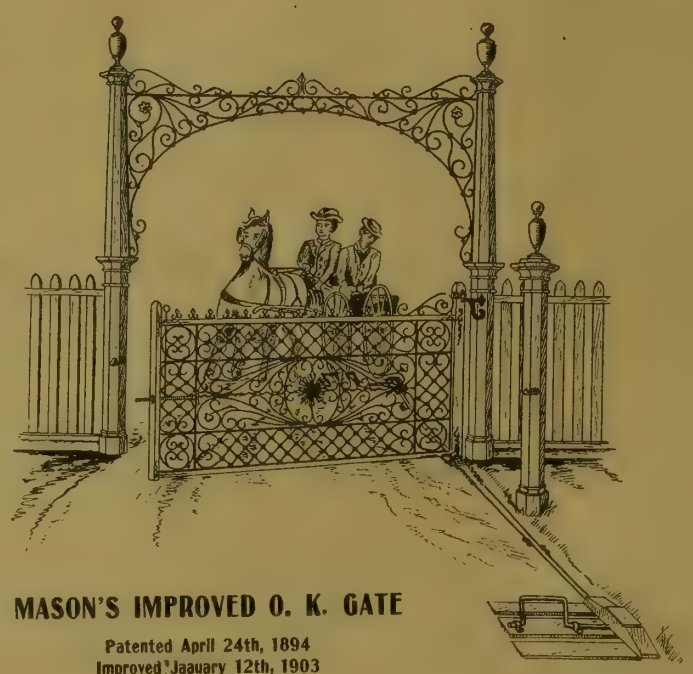

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PETALUMA, CAL.

Mid-Summer Farmers' Institute

MANY MEN OF MANY MINDS DISCUSS SCIENTIFIC AND PRACTICAL QUESTIONS. A STRONG PROGRAM WITH BUT FEW TO HEAR.

After eating a good old fashioned Thanksgiving dinner a little girl once said that she did wish she could eat more for her mouth was yet awful hungry, but her stomach wasn't a bit.

That's the feeling at Long Beach this week. A perfect surplus of good things. But it is all being taken in and great good will come of it. But the farmer who finds difficulty in choosing between two fertilizers each of which is "best;" or of deciding between spraying or fumigating, or even of giving a sure cure for puffy oranges, has a task which is far easier than that of a newspaper which would pack six solid days of institute into a few pages.

It can't be done. However it may be possible to give a few tempting morsels which may make some who didn't go wish they had.

Other features and some of the papers will appear in later issues of the Cultivator.

It was the heaviest program ever attempted in Southern California. Its reception is such that it may be repeated another year.

The attendance on Monday morning was not as great as it should have been. The preliminary talks were the foundation for the work of the following days. It certainly gave a strong grasp of the following programme. The first feature was instrumental music, followed by invocation by Rev. C. P. Dorland, pastor of the Congregation church. Mr. Dorland also gave a most hearty welcome to the church and wished that all attending the Institute would make themselves at home, not only on the main auditorium, but in all the rooms of the church.

J. A. Miller of Long Beach, followed with an address of welcome, and he made it not only most hearty as to this Institute, but hoped the impression formed by those attending would be unanimous in a desire to return for future institutes, which he hoped would be a regular feature of Long Beach.

Prof. Cook responded, expressing appreciation for the nearty welcome and referred to Long Beach as a place where it was not only a summer resort, in which tourist crops were cultivated, but that it was, contrary to conditions usually near the beaches, an agricultural community. This is attested by the large number of products, from the immediate neighborhood, which are sold at stands in this thriving little city.

TEACH THE CHILDREN.

Mr. Allen of Bonita, was not present so his article on Distillate Spray or Fumigation was put over until a later session. Prof. Cook immediately took up his talk on insects which he brought out in a practical and intensely interesting manner. The first point which he made of the greatest importance was that all should study the life history of the insects which are about us on all sides, and that we should not only do so because of the practical side of such study, but because of the intensely interesting recreation which it gives to us. He gave instances where children were greatly benefited and given a most admirable habit of observation by their study of insects. He considered the taking of the study of entomology out of the public schools as a serious mistake, though he admitted that many of the teachers, who attempted to teach it, were not in the least qualified to do so.

He then gave directions as to how children might get a good general idea of insect life. The necessary articles to provide for this study are a net for catching the insects, cyanide bottle, box or tray in which to keep insects, and slender pins, which are made for this particular purpose. Of course, all understand that the net consists of a hoop at the end of a handle and from it is suspended the net, like a bag. The cyanide bottle may be a common pint or quart fruit jar on the bottom of which is placed a small piece of cyanide, and over this is poured a solution of plaster of Paris, which when it hardens, holds the lump in place. The fumes of this will cause the painless and almost instantaneous death of many insects put in the jar. The professor asserted that these fumes will effectively kill all life even the eggs.

NEEDED APPLIANCES.

One point which he especially dwelt upon, was, that if the children take up the subject of insects, it should be impressed upon them to observe absolute neatness in the mounting of their specimens. He especially brought out the fact that a good close box should be provided so as to protect the insects from any other insects which might enter. He said a common cigar box would not answer for this purpose.

The great branch of the animal kingdom in which insect life is placed, is called the anthropoda, in which comes the crustaceans, myriapods , spiders and the true insect. The crustaceans or water breathers were discussed only a very few minutes. The myriapods, which are very useful to the human race, include tne thousand-legged worms, which never have 1000 legs, though they may have from 200 to 300 legs on its 60 to 70 joints. In fact this morning's lecture was more in the nature of a preparation and a general view of the great divisions of the animal kingdom, with an idea as to the more specific lecture on insects which is to follow.

The professor was especially urgent that all present should overcome the natural, or as he termed it the unnatural repugnance which most have for spiders, caterpillars, also that children should be taught to admire the beautiful in this form of life.

PROF. McCLATCHIE.

Prof. A. J. McClatchie of the Arizona Experimental Station at Phoenix, Ariz., who is one of the greatest authorities on eucalyptus there is in this country, and who is a thorough student of nature, added much to the interesting programme. Prof. McClatchie is not an orator and does not convey the impression that he is dispensing a large amount of learning, at the same time his talk, given in a very entertaining manner, held the audience. He began by taking a general view of biology which includes all organic matter. Prof. McClatchie said, in part:

"There are more than dollars and cents in this world, and a simple knowledge of plants is certainly worth something to us. In the first place, as you know, the material of this world is made up of inorganic and organic matter. Organic matter has organs or is some product of something that has organs, such as sugar, starch, etc. Inorganic matter is something that has no organs, such as gold, silver, the elements, etc. Chemistry has to do with both. In speaking of plants we have to do only with organic matter.

We know that the first condition of the world was a heated molten condition and that no organic matter could have existed. So we find that it was all inorganic life. As to what the source of organic life was, we do not know, but we do know that the organic was derived from inorganic, and it depends largely upon inorganic matter. Plants have the power of feeding on inorganic matter; animals only on the organic. Biology means a discussion of life or of living things. It is a general term and is divided into two departments, animal study and plant study. Plant study may be divided into several departments; their structure, organs, and from a standpoint of their usefulness and economy. Plants that are alike in structure are called species. The lemon is one, the orange is another. An assembly of species is called a genus. Now then species are grouped into genera, genera into families, families into orders, orders into classes, and classes into branches. Before I go further though, I want to impress upon you the fact that children can learn these scientific terms as easily as the older people. They cannot only learn them but understand them as well.

FIRST LIFE.

"The first plants that appeared on the earth were the very simplest in structure. For hundreds of years there was nothing but the simplest plants one of them being the green slime, and its relatives. This green slime is composed of very small spherical bodies, made up of single cells. This growth is not in any way harmful, but of course, if it is allowed to decay, it will furnish conditions that are harmful. These plants need sun light. If they have no sun light they will die.

"Another group of great importance is the bacteria, which are sometimes called germs, microbes, etc. But bacteria is the proper term for these small plants. They are plants though at one time they were thought to be animal life. They are every where, but so small that they cannot be seen with the naked eye. Although most of them are a benefit to the human race, a single bacterium can accomplish nothing, while myriads can do anything. They are very, very small, and like the green slime have only one cell. Some are round, others oblong and others spiral in shape. They grow as any other plant, and need food, moisture, and proper temperature. If you raise the temperature to a high degree they cannot grow, or may be killed. If you make the temperature low their growth stops. That is why we dry fruits, boil milk, preserve meats and other things in a refrigerator, etc. They thrive best between 50 and 100 degrees. If you heat milk three times at intervals to 160 degrees for 15 minutes, every disease germ would be entirely destroyed. Bacteria creates various substances, mostly acids. They do more good than harm, although many people think they are very harmful.

BACTERIA.

"There are 500 species of bacteria, and only about twelve of these are harmful, and fewer are very harmful, all others are useful, in fact we could not live without them. They are especially useful in changing the organic matter back to the inorganic matter, for if we did not have the bacteria our supply of inorganic matter would soon be exhausted, but as it is now, it is inexhautible. For instance, inorganic matter is taken up by the grass, a rabbit eats the grass, a fox eats the rabbit, the fox dies, and by the aid of bacteria, the substance in the fox's body is changed back to inorganic matter. So do not make the mistake of thinking that the bacteria are only harmful, because we would not have been here today, were it not for the bacteria.

* * *

MONDAY AFTERNOON.

The question box opened the afternoon session and brought out most interesting discussion.

What kind of fertilizers for tomatoes planted in a sandy soil? Referred to Professor Loughridge and his answer was, of necessity, indefinite, because, as he said, he must know the soil and other conditions before any definite answer could be given, but it was generally conceded that stable manure might be applied with advantage at any time. The same question as to grapes brought out the answer that as a rule grapes needed an abundance of potash.

* * *

The most extended discussion was brought out by the question as to whether thrips feed on black scale. Prof. Cook said that thrips only feed on vegetable life. In this Mr. Payne, of Monrovia, and Prof. Craw differed, as they had seen thrips in the act of feeding on the young of a scale. The variety which is predacious is the black species and it is hoped that they may prove a material aid in controlling this pest.

A discussion as to whether the red spider, which infests the deciduous trees is the Bryobia or not, brought out diverse opinions, Mr. Craw, Mr. Payne and Mr. Pease holding that it was the same.

What time of the year could stable manure be applied to the orchards? Referred to Dr. Wall for answer. He said that the best time was whenever you could get it. He applied it at all times, in the summer as a mulch, which is again applied in the winter and then plowed in. Dr. Woodbridge felt that if it could be cheaply enough purchased, it should be applied at all times, but his idea was that good wheat straw which could be had usually at one dollar a load was really worth as much if not more than the usual load of Los Angeles stable manure. The ordinary stable manure purchased having as high as 60 per cent water. The handling of this water is an expense, and of no worth to the fertilizer. Mr. Harwood of Ontario said that he had purchased in Los Angeles stable manure which at first weighed twenty-two tons. He threw it in a pile, and when taken to the orchard it weighed only nine tons, and he asked if it was as good at nine tons, as a fertilizer, as it was before. Mr. Woodbridge replied quite decidedly that it was. The Doctor further said that the fertilizing element of wheat straw was approximately $7 per ton, or barley straw $5 or $6 per ton. Another question was as to whether there was any loss of fertility from throwing fresh manure from the stable to the corral, and there dried out, and some discussion arose with the general impression that there was no deterioration.

NO ABSORPTION BY LEAVES.

The first talk by Prof. Loughridge of the University of California, Berkeley, gave a general view of the field of chemistry as applied to agriculture, and practically considered the chemistry and requirements of plants. He said of the seventy or seventy-five elements existing, that there were about seventeen found in the analysis of plant life. Of these seventeen, there are about four that are of any great importance; these are oxygen, hydrogen, nitrogen, and carbon.

There are two principal groups or combinations of these elements forming the carbo-hydrates and albumenoids. The three necessary conditions of plant life are sunlight, air and moisture. As to the necessity of abundance of moisture, he stated that one ton of wheat required the total of 350 tons of water to mature it; one ton of alfalfa, 400 tons of water; one ton oats, 500 tons water.

No moisture is ever absorbed through the leaves, which is contrary to the usual belief. The spraying and filling the air of any room with moisture prevents the rapid evaporations which do take place from leaves of any plant therein. This revives the plant and gives the impresion that this moisture has been absorbed by it.

THE ELEMENTS.

In addition to the four plant elements named above, the others are, potash, soda, lime, magnesia, manganese, iron, alluminum, silica, chlorine, phosphorous iodine, sulphur and bromine. These elements are some of them necessary to the plant growth, while many of them, if they are of any use, it has not been determined by chemists; for instance, at one time silica was supposed to be necessary to give strength to the straw of the wheat and other grains. It is now known to be unnecessary. The fact is that it is in the soil and the greediness of the roots which take up all that is soluble in the soil and the plant absorbs this, that it appears in the analysis. Of these seventeen elements all are taken from the soil, except the one, carbon.

WATER NECESSARY.

Referring to the needs of the plant for water, again the Professor mentioned the experiment in which 4½ inches of water produced 15 bu. per acre, doubling the amount of water produced 30 bu., doubling the amount again produced 60 bu. per acre; showing that with the elements already in the soil, to give plants food, the necessary requirement is abundance of water.

ALEXANDER CRAW.

Alex. Craw of San Francisco, who is at present clerk to the Commissioner of Horticulture, is now in Southern California investigating the success of the predacious insect, Scutellista, which was imported from South Africa, was able to present and gave a most interesting talk as to the benefits of the work of the Horticul-

tural Inspectors, and by the State Board of Horticulture. Mr. Craw said in part:

HORTICULTURAL QUARANTINE.

In complying with your request to address this session of the Farmers' Institute upon "Quarantine Against Insects," it was because I thought it possible to be present, as it occurs at a time when the importation of trees and plants is lightest.

Another important consideration that made it possible was that I had previously received instructions from State Commissioner of Horticulture, Ellwood Cooper, to visit all the Southern counties and investigate the present condition of insect pests in the orchards, as to their control, and especially to learn the result of the efforts made by Mr. Cooper to establish the various beneficial insects introduced into California for the suppression of the noxious introduced species.

ONLY TWO.

Within the past fifteen years only two serious insects have been established in orchards, and both were brought in on trees by rail. One, the "black peach aphis" (Aphis persica niger) from the Eastern states, and the "Purple scale" (Mytilisaspis citricola) from Florida, on citrus trees.

We have had trouble by officials in other states holding up shipments of apricots said to be infested with San Jose scale, when it was shot-hole fungus. The scale is not known to attack the apricot tree, or fruit. A few years ago this was a very destructive scale, but it met its Nemesis in the form of a tiny four-winged fly (Aphelinus fuscipennis). You can imagine its size when I inform you that each scale—not larger than the head of a small pin—contains sufficient food to develope a full-fledged fly, from the egg, through its magot form, to the perfect insect. In the San Jose district, where the scale was first introduced, it can hardly be found now, owing to the work of this parasite, aided by predacious insects. In fact, it is a rare scale now in California. Until Mr. C. L. Marlatt's recent visit to Japan and China its habitat was a mystery. In the latter country he found this scale. He also found a lady bird beetle (Chilocorus similis) that appeared to be the natural check to the scale in that country, and succeeded in introducing a colony into Washington, D. C.

WHITE FLY.

I desire to again call the attention of horticultural commissioners and inspectors, and also to intending planters of citrus trees, to the very great danger of introducing the "white fly" (Aleyrodes citri) from Florida. I have reliable information from that state that no portion of it is free from the filthy pest. The "black scale" is a clean insect and spreads slowly as compared with the "white fly." The latter exudes great quantities of honey dew and the infested trees soon become encrusted with black smut. The female "white fly" has two pair of wings and can spread more rapidly than the wingless female scales.

MANDAMUS THE SUPERVISORS.

Fruit growers in counties where their Supervisors have refused to appoint horticultural commissioners should have the court mandamus them to make such appointments in order to protect the fruit interests of their county and state at large from new pests and diseases. If one county in a fruit district is permitted to evade the expense of employing three or more officers to guard aginst the introduction of pests, it practically renders invalid the efforts of others adjoining and more prosperous and progressive communities, and should not be tolerated. See our law to protect and promote the horticultural interest of the state, approved March 31st, 1897. Section I of the Act makes it obligatory on the part of the supervisors to appoint a commission of horticulture, consisting of three members, when petitioned by twenty-five or more persons each of whom is a resident freeholder and possesor of an orchard. Orchard property is taxable and orchardists should see to it that a commensurate proportion of that tax is used for the protection of that property.

In drawing up a petition to be presented to the board of supervisors for the appointment of a county board of horticulture, it should be worded and the appointments made as required in the statute.

The paper of Mrs. Sherman of Fresno appears almost in full upon the first page of this issue. In the discussion of this paper, a question was asked her as to her favorite breed of the dairy cow, but she answered that there was not so much depending on the cow as there was upon the man or woman conducting the dairy. Any good breed given good care and carefully brought up to a true dairy type will bring good results. Mrs. Sherman's favorite is a Holstein which she has made such a complete success. Formerly she kept the Jersey, and still has a kind word to say for the Jersey, but the reasons for the change is that the conditions of Fresno are such that the Holstein brings the better returns for her than any other. Her registered herd gives a butter fat test of 4.4 per cent butter fat, the individual cows varying from 2.3 per cent to 5.1 per cent.

* * *

MONDAY EVENING.

The question box brought out only a few questions, but no little interest was manifested. As to how deep furrows should be in orchards for irrigation, brought out diversity of opinions, due, doubtless, to unequal soil conditions. Mr. Kennard uses three furrows six to eight inches deep, water runs eight or ten hours every five or six weeks. Mr. Prescott, six or seven furrows, four to five inches deep, runs six to twelve hours. Dr. Wall wishes none of the deep furrows and uses many furrows that are shallow. Mr. Blanchard, four furrows between rows in clay loam soil, four or five inches deep, runs forty-eight to seventy-two hours, every six weeks or two months. Mr. Harwood, eight to twelve hours, and in other soil which is of a clayey nature, thirty-six hours gave no better result than eight to twelve. Dr. Needham of Glendora gave the same opinion from his own experiments. Mr. Day spoke of securing excellent results by the zig-zag system.

HORTICULTURAL COMMISSIONS.

Then the Horticultural Commissioners were given almost the entire evening session. J. W. Jeffrey of Los Angeles county, S. A. Pease, San Bernardino county, E. L. Koethen of Riverside, each presented a paper from which we quote below:

HORTICULTURAL OFFICERS AND THEIR TERM OF OFFICE.

Mr. Koethen of Riverside, sent his paper which was read by Mr. Stone. In part he said: "The duties of the Horticultural Commissioners are recognized to be of such vital importance to the horticultural community and the necessity of maintaining a strict quarantine against insect enemies are so evident that it is unnecesary to put stress on the necessity of maintaining this commission. But the carelessness with which we allow the appointment of untrained and the removal of efficient ones for political reasons indicates a lack of appreciation of greatest efficiency.

The inspector must be familiar with all forms of life, especially all insect pests estabished in the state. He must know the remedies needed for application. He must know the desirable insect to be preserved.

That many appointments of a purely political nature have been made in the past and many removals for political reasons have occurred throughout the state, very much to the detriment of the horticultural interests are facts that all will acknowledge, and it is time that we, the fruit growers, demand such legislation as will afford us a remedy. The most needed reformation in making of appointments of horticutural officers is for the applicant to take an examination to show his qualifications for office. The best officer in charge of such examinations is the quarantine officer. This would remove every possible political scheme from the appointments of these important officers. The offices should be filled for a definite term, and not at the will of politicians.

As to the reduction of the number of commissioners, as suggested by Prof. Cook, that may do in some counties, but I hope no law wil be presente that will make the reduction to one compulsory. In counties like ours, it is essential that a commissioner be in charge in each district and the present law works well here.

Space compels us to pass Mr. Jeffreys' and Mr. Pease's for the present.

ERNEST BRAUNTON.

Ernest Braunton of Los Angeles, floricultural contributor to the "Cultivator," spoke in a most entertaining way on floriculture, giving this evening some foundation elements of small yard ornamentation. He said that he could only give an idea along the line of nature gardening, formal or architectural gardening had never been his study. He believed in following nature in the ornamentation about our houses as closely as possible. The art of landscape gardening is but little improved by experience or practice; it is more of an inspiration and capacity to get close to nature. He referred to busy people whose love for plants has made them noted along the line of landscape gardening.

The best developments have been reached only during the present century. Prior to that extremes in formal and grotesque shapes in gardening prevailed. The three principal points or foundations of landscape gardening being to preserve open lawn centers, plant in masses and avoid straight lines. He exhibited a chart which was published in an article in this paper some months ago, and showed the beauty and convenience which would come from keeping the lawn centers open to allow of view from and into the house, and showed how massing the plants along the sides or in clumps where greatest beauty could be obtained, added much to the effect. He also appealed for the beauty to be used in back yards. A few trees here and there and a rustic seat, makes a vastly better looking back yard than ash and swill barrels.

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TUESDAY MORNING.

Prof. Cook's talk upon the arachnid group of animal life devoted special attention to the mites. He spoke at some length regarding the red spider, and said that from his own experiments, he knew that distillate spray was the best of all spraying for this particular pest. He said he knew from observations that this wash would absolutely destroy some of the eggs which might be deposited on the leaves if it came in contact with it. The most interest, however, seemed to be created in his talk on the Texas ticks which are the cause of the Texas fever. This particular disease is caused by a sporozoan, a mite of animal life instead of plant life as is the case of the anthrax, which Prof. McClatchie spoke of. The mite is introduced into the blood of a healthy animal by the Texas tick, which may have the germs within itself, or it may be introduced with a pin which has been inoculated by sticking in a diseased animal, and then bringing in contact with the blood of a healthy animal. The mosquito is known to introduce other diseases into the human body. Regarding the Texas fever, manner of handling, vacination to prevent it, etc., Prof. Cook referred to a bulletin published by our own State University which is of great value, also a bulletin published by the Louisiana State Experimental Station, located at Batton Rouge, another at the State Experimental Station of Florida, at Lake City; others from the stations at Columbia, Missouri; College Station, Texas; Auburn, Alabama. Another mite is the little fellow which infests the walnut tree, but it is not worth consideration. As to the spiders and scorpions, Prof. Cook maintains there is no injury of account from them. Never worse than a bee sting, and then only from one variety, a small black spider with red spots.

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In the absence of C. C. Teague who was programmed for an article on "Shall we Rebud our Lemons to Oranges," a general discussion was called for and was led by Mr. Blanchard of Santa Paula. Mr. Blanchard thought that if the conditions were favorable for the growth of lemons it would be a mistake to rebud. Lemons are more delicate than oranges, require greater freedom from frosts. There is also an advantage secured to large growers of lemons and a greater ease in selling small quantities of oranges than small quantities of lemons. So Mr. Blanchard thought that lemon production is more profitable in a large way. He also thought that near the coast where the conditions favored continuous growth of lemons, which is a great advantage over the interior points. Mr. Kahles of Santa Barbara, seconded Mr. Blanchard's remarks, especially with reference to the small growers being at a disadvantage. He referred to the Santa Barbara Fruit Exchange, which at one time handled large numbers of lemons, being almost dissolved now. Mr. Heintz asked as to limes, but Mr. Kahles thought that they were not produced in sufficient commercial quantities in California. Mr. Harwood has lemons, five acres of them, which he says he will not rebud, although some years there is an almost total failure of the lemon crop; for five years the lemons have proved more profitable than the oranges.

Asked as to his favorite variety, Mr. Blanchard said they were Lisbons, Eureka, and Genoa. He said that his Lisbons have proved his most profitable fruit but he said that Lisbons varied greatly, some having much shorter thorns than others. J. H. Reed of Riverside, said that the small growers in Riverside had just as much advantage as the large growers. There they co-operated and 500 acres of lemons have every advantage that 500 acres of oranges would have. He spoke highly of the Santa Paula method of curing lemons and felt that a debt of gratitude was owed to Messrs. Teague and Blanchard and others who had introduced and given that system to California. Mr. Stone of Pasadena, had rebuded lemon trees to oranges but felt that he had made a serious mistake, and should he remove apricots which are now planted on his place would replace them in lemons. He also spoke highly of the worth of the new system of curing lemons, and felt that our trade would be more favorable if we had more lemons to fill the market, and drive out importations.

Mr. Day of Pasadena, referred to the Davene's wraps and thinks it may have a future in store for it.

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DIVISIONS OF PLANT LIFE.

Prof. McClatchie in his talk on plants repeated much of his first lecture. One point which he did not mention before was the different manner of studying plant life; First, as to their structural makeup; second, classification; third, physiology; fourth, uses or economy. He also referred to the different divisions into which plant life is placed, as species, genus, families, etc. Species are again divided into varieties, that is, potatoes, of the different varieties make a species, apricots the same, etc.

Referring to the great branch of vegetable life he said that there are some five or six different great branches. The branch which he studied in his first lecture was the protophytes or first life. This is divided into three groups, micrococcus, bacillus, spirillum.

There is no plant but has the power of motion, and many of them have the power of locomotion, these of course are the water plants. There, motion is such that the distinction between the vegetable and animal life has been very difficult. In fact, there is no definite line between them. This makes it especially hard to distinguish between the lower forms of animal and plant life.

NO RACE SUICIDE.

The omnipresence of Bacteria, and its infinite smaliness was shown by the fact that many of these varieties of bacteria, by actual measurement with the miscrope are only about one ten-thousandth of an inch in diameter, and many are only one-tenth of that infinitessimal size. The increase is so very rapid that while only one or two of the bacillus which cause anthrax of cattle, may enter the veins of an ox, the millions upon millions which have grown will cause the death of the animal within twenty-four hours. The next form of life he again took up was the green slime, "frog spittle" and algae or sea weeds. One of the most interesting parts of his talk was his reference to the algae, of which he showed specimens. He also showed a specimen of a rather small leaf of the brown algae which sometimes grows to the enormous length of 1000 feet, and said to the the longest plant growth in the world.

Another very interesting thing of which he spoke was the chlorophyll and other coloring matter in plants. He said that the blue or other colors help to diminish the power of the sunlight, and the red to increase the power of the sunlight, so, for that reason, the red sea weed was always found in the deepest water, and the

blue or green was always found in the shallowest water. He also said that plants will change their color, in time, by being transferred from one country to another, and that they have apples in Phoenix which are of red varieties and should be a deep red, which are all bleached, and have very little if any red in them. This is because of the intense light which is greater than the fruit requires, hence the fruit adapts itself to conditions and receives less light by being bleached.

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TUESDAY AFTERNOON.

Will crude carbolic acid cure gum diseases? And in what proportion shall it be used? Half water and half carbolic acid. Diseased part should be scraped away before applying. Mr. Blanchard preferred a paste made of lime, carbolic acid, and water. Mr. Allen preferred a paste made of one cup lard, stick of phosphorous, with sufficient dry paint added to make of the consistency of paint. Mr. Dreher, Jr., preferred lime, sulphur, and carbolic acid made into a paste.

What is the cause of the mottled leaf in the orange? Lack of water. Too much water. Lack of nitrogen. Too much nitrogen. Lack of humus, and many other answers were given. It was decided to be a case of general plant dyspepsia.

Prof. Loughridge talked almost entirely on the mechanical make-up of the soil, especially as to the necessity of humus in the soil for all plant growth. This must be given special attention in California, for here the soil is lacking in that element, while in many of the eastern states the average contents of humus in the soil is 5 per cent., in California it is sometimes as low as one-tenth of one per cent. The amount of humus in the soil seemed to be determined in a large part by the number of earth worms. They introduce nitrogen into the soil, for where they are scarce, humus is scarce. It may be increased by an application of coarse manure, but the Professor thought the best and cheapest method was an application of green manure. It helps to secure ventilation or aeration, of soil, also to hold the soil elements ready for the solution by water. Humus may be destroyed in the soil by too much cultivation especially in the hot interior valleys, where it is brought to the surface constantly and is burned out by the sun.

This lead to a discussion of stable manure, and Mr. Davenport was asked if stable manure was good for orange groves, and he gave an instance in which he applied it on his ranch in Pomona, with wonderfully profitable results. He applied large quantities of barnyard manure with the results that the trees were made much stronger in growth, with a very large quantity of fruit which however, was not of the very best quality.

A WARM DISCUSSION.

A discussion on Mr. Allen's paper proved one of the warm numbers of the convention. Some of the heat which he mentioned in the first paragraph of his paper was shown to be present in a very active state. It was, however, confined to one person whom Mr. Allen charged with being the employed agent of the cyanide syndicate.

A challenge to battle resulted to no blood shed, and the course of distillate, also cyanide are now moving in the even tenor of their way

In answer to the question as to much damage which is caused by the distillate spray, Mr. Allen said that much of the spraying was improperly done, or rather, done with improper materials. The distillate must be clear and of a high grade. He said that he had seen some that was the color of tar, and thought it must contain asphalt. Of course, such stuff as that will ruin the fruit and endanger the life of the tree.

AT RIVERSIDE.

Mr. Cundiff of Riverside, spoke at some length regarding the investigations, and though the report exceeded the five minute limit which had been established by unanimous motion, and then he was requested to read the report. We must say that this report has shown the belief of the committee in the distillate spray. That is out of 900 acres investigated, owned by sixty-three persons which were interviewed, there are only a very few that had any serious injury to the fruit or dropping of leaves; but in the main the damage was very slight, and the results on the scale most effective. These investigations were in charge of a committee of ten, who placed the active work in the hands of a committee of three, consisting of Messrs. Cuttle, Everest, and Koethen. On the whole Mr. Cundiff thought that the success of the distillate spray, is far greater than that of gas in its early day.

Mr. Day called attention to an exhibit of lemons in which there was a quantity of red scale, which had been sprayed some months ago and also some weeks ago. He asked Prof. Cook to investigate, and Prof. Cook said that without question there were live red scale on the fruit and branches. Mr. Day believed that on the red scale the gas had the preference. Asked as to what he believed of the effect of the spraying, Mr. Allen said that he had absolutely no experience with that particular scale. Mr. Day said that many fumigators are too sparing of their cyanide and also said that he knew of one of the most successful fumigators who had used a large quantity of water, four times as much water as acid. Ex-Governor Sheldon said he had no direct interest, but felt an interest in the welfare of the state. Thought the matter should be fully investigated, and the results reached should be accepted. He did not think spraying philosophical. The spray he thought did not penetrate as does the gas.

ANALYZE DISTILLATE.

Mr. Dreher of Pomona suggested that an analysis should be made of the particular distillate that proved successful. And a demand for material that shall come up to the standard would be the best way to secure uniform results from spraying. Mr. Stone of Pasadena replied to Gov. Sheldon's request for experiments, and called his attention to Mr. Allen's explicit statement that his conclusions were the result of fact, developed by years of experince, first with gas and later with spraying. Gov. Sheldon replied that if this be true, let the results be accepted and the established heat allayed. Mr. Stone also felt that the importance of the matter was such that the State University, with the Farmer's Institute funds, should make a thorough investigation of these matters and give it to the fruit growers in a bulletin. Prof. Loughridge replied that there have been investigations both in the matter of gas and spray, and bulletins are now being issued. The bulletin on fumigation already being distributed. On motion of Mr. Day, a unanimous request was made that the University of California send competent men to make thorough investigations.

Mr. Heintz then took the floor, and asked Mr. Allen if he had any scale at all on his place. Which Mr. Allen had, and as he also said afterward, that he had house flies too. This pleased Mr. Heintz, who said that he had a report from a committee which he had sent to make investigations, and that he had found trees in Mr. Allens ranch which were in a very bad condition as result of spraying. Mr. Allen said that his trees were not in a bad condition, as a result of spraying, notwithstanding Mr. Heintz's report who was the paid agent of the cyanide trust. This Mr. Heintz denied, and suggested that they withdraw to the street.

Mr. Reed of Riverside said that the investigations of a committee which had been appointed by the Riverside fruit growers was not conclusive, but merely looking toward securing the most information possible. Thinks that so far spray is deemed best for the conditions existing in Riverside.

MORE CHEMISTRY.

Prof. Loughridge then continued his talk on chemistry of the ranch, basing this day's lecture on the composition of the soil. There are five ingredients of the soil. That is, from the original rock formation to plant food. First is the rock powder, which no matter how fine it is pulverized by the air and moisture, is not plant food. Second is silt; third, clay or silicate of aluminum. Clay is a result of decomposition of mineral matter. A soil which presents 40 per cent. clay is exceedingly hard and difficult to work; containing 10 per cent. clay makes a nice sandy loam; one containing 3 to 5 per cent. makes a sandy soil. Fourth is humus or partially decayed plant food, and fifth is the plant food. There is a large amount of vegetable matter in soil which is not yet humus.

The physical condition must be correct, and the soil should be deep. The conditions in California are very much varied, but as a rule the soil is exceedingbly deep, so much so that an alfalfa root was found at a depth of sixty feet, in an adobe soil, An almond root at 30 to 40 feet. Deep soil means that water must be forced far below the surface. No matter how deep that water may be, all plants have the power of lifting it from great depths.

The Professor referred to the soil analysis of which he has charge, in the State University, and said that farmers sending in samples for analysis should take an average sample, at least a quart, to the depth of four feet. That from the top to be kept by itself,and state the general conditions, and as to whether the analysis is desirable to determine the fertility, the presence of alkali, etc. The best thing to do in this matter is to write to the Professor at Berkeley, for bulletin of instructions, which are forwarded to all wishing soil analysis. About 500 soil analyses are made each year.

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TUESDAY EVENING

What is the cause of oranges turning green after ripening was referred to Prof. Loughridge, who answered that there was probably an excess of nitrogen. Mr. Reed of Riverside thought our orchards were in poor condition, and Mr. Hirschfeldt of San Jacinto thought that wet ground would be the cause of it. C. C. Chapman said, "It is more noticeable of the young trees. With trees which have god continuous care the danger is lessened."

Are house plants healthful? Decidedly they are, and add so much to the beauty and happiness of the home. Mr. Pratt wished to know if they gave the proper conditions, say in the sleeping room. Mrs. Sherman thought they were not at all harmful.

How can we get more beautiful homes in Caifornia? Mrs. Sherman said aid by being neighborly and supplying seeds, and roots to those who were not able to buy. She said be enthusiastic yourself, it is catching. Be neighborly. Above all keep your own place neat and beautiful.

Mr. Braunton continued his talk on Floriculture. The rose is the most loved and the least understood of any of our flowers. We shoud give it the same rest as it has forced upon it in the East, that is from July 1st to about October 1st. The manner of doing this is fully given in Mr. Braunton's Floricultural Department this week. After the rest the rain comes and it is thoroughly soaked by irrigation about Novemebr 1st, and when fully started is then given thorough fertilizing, and then a magnificent crop of early winter bloom will follow.

The ten best varieties of bush roses for Southern California were given, also the six best climbers. Those lists with descriptions, colors and conditions for the best growth, etc., will be given by Mr. Braunton in the Floricultural Department next week.

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TUESDAY EVENING.

C. C. Chapman of Fullerton read a paper on "Care in Handling Citrus Fruits." He said that an orange should be picked when at its best, that is, navel in its season and Valencia in its, and not picked after rain, because it will decay. Regarding kind of boxes, Mr. Chapman also said that farmers must never use an ordinary packing box for orchards. It results in injury to the fruit and if it is sent to market in a dirty box a loss far greater than if a clean box had been purchased in the first place. The box must also be provided with end cleats. The ambition of some men to have their boxes picked especially full results in great loss from bruised fruits.

To handle fruit in the orchard properly, one should have a good ladder, with broad steps, wide base, and should be taller than the trees; also clippers to cut stems closely; picking bags, which do not hold more than half a box; springs on wagon, and last but not least, good roads. Care should be exercised in lifting from the wagon at packing house. There should be rubber tire trucks, and there must be care in emptying, brush ng and sizing.

MORE INVESTIGATION.

Mr. Reed of Riverside spoke of "Our State Agricultural Deparments and

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the Rancher." Mr. Reed did not make this a criticism upon our state industries and said that he had, "no criticism, only he wanted to ask if it may not be more complete.". The growth of this work is wonderful. There are as yet comparatively few who have been benefited. People persist in following the beaten paths. In France agriculture is taught in 3000 primary schools, and in many of the more advanced institutions. It is more practical to teach our children the rudiments of agriculture as the arts and languages. May not the State University accomplish much more for us in this and other lines.

We may have the soil analyzed. To the scientist this seems simple; to the orchardists, many of whom seem unable to grasp the matter readily and there is disappointment, so he will not experiment for himself. Questions of many years ago are still unsettled. After all the bulletins on fertilization, not one farmer in twenty uses fertilizers with any assurance of success.

Expert investigations must be entered into. The decaying of citrus fruit is enormous. Some of the causes are known but not fully appreciated. This investigation is expensive, so is the terrible loss of the vast amount of fruit. Such investigation would have saved $400,000 on last season's shipment alone . This should be provided for by special appropriations. Decay in transit, fertilizer, and insect pests should be fully investigated. Is it not time to petition for this work to be taken up?

To devote money to charity is philanthropy; to devote money to investigation is statesmanship.

Prof. Loughridge called attention to the great work already done by the State University, especially referring to codling moth and peach worm investigations.

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WEDNESDAY MORNING.

The Long Beach brass band livened up the opening with some excellent music and after the usual opening exercises, Prof. Cook took up the study of insects. The Professor's talks are following much the same lines as the articles in the "Cultivator," so we give then only a mention, but the interest with which the people follow his talks is really gratifying. This morning's talk was largely regarding ants. He spoke of their high development, or more particularly of their brain power, in fact they seem to have a social system of their own, working along cooperative lines, as near as can be determined from close study, they have slaves and they use aphids to supply them with food, much the same as we do our dairies.

FOREIGN MARKETS.

Thomas Stone of Pasadena spoke on the subject of extending our foreign markets. Mr. Stone is nothing if not optimistic and considers that we have not yet thoroughly developed our foreign markets for citrus fruits. Mr. Stone based his talk on his investigations made on a recent trip to England, at which time he visited the great fruit market of London, and found it almost impossible to get California oranges, and when he could do so by paying ten to twelve and a half cents each Mr. Stone referred to the recent estimate of 35,000 car loads as next year's output, but did not consider that, of the possible 50,000 which it may reach in a few years as anything to be alarmed about from a grower's standpoint. The market is so little exploited in Europe and practically not at all on the continent. There should be not only agents in London, but many agents in the larger cities of England, and on the continent.

It will not do to continue our present apathy, and wait until the demand forces us to export our fruits, but we must enter the markets and compel the trade to supply the people of Europe who are able to pay for good fruit, to eat Washington navels. He thought the present fruit agency represented a vast number of orange producers, and should be on the lookout to take up this work, and exploit foreign markets. He said that within a forty mile radius of the city of London, there were eight millions of people. Not all these would be able to buy Washington navels, but the vast number who would be, would consume a large quantity of the best California fruit. It is probable that on the continent there is less opportunity for developing markets than in England, notwithstanding that it would be no more startling to send navels to France, or to Spain where oranges are now produced, than it is to send prunes to France. The speaker was enthusiastic enough to believe that a still further extension of the markets could be possible into Russia, and even Siberia, China, and in fact all of the Asiatic countries.

In the discussion Mr. Stone was asked as to the cost of getting this fruit into these markets. He said that the cost to place fruit in London would only exceed the cost of our getting the same into our Eastern markets by about 30 or 35 cents . The worst feature was the matter of time which the transportation companies should aid in overcoming.

TIME LIMIT.

Mr. Dreher of Pomona also spoke of the time limit for handling perishable fruit as the principal factor. Good care in orchards and packing houses and quick transportation would give an entry into foreign markets. What may we expect in the effort to enter foreign markets, when our fruit does not even carry to New York? One speaker mentioned a box of oranges expressed to Calcutta which were six weeks en route and arrived in good condition.

Mr. Reed of Riverside felt that we should not lose sight of the fact that we have greater development of our own home markets. Mr. Davenport of Long Beach referred to the time—fifty years ago—when apples in New York sold at $2.50 the wagon load, and there was a fear that in time there would be an over production. Yet today apples command several times that price.

Mr. Johnstone of San Dimas has 100 acres of oranges and lemons and is decidedly hopeful for the future. He thought, however, that Europe would make a good market for our "big offs." The coming year he deems a good one for developing new markets.

J. S. Edwards of Redlands read his paper on co-operation, in which he took for his text, "Is the servant greater than his Lord?" It was a satire upon the present conditions with occasional raps at the California fruit agency or more particularly the citrus union for the recent combinations in which the growers, which we consider the master, has been considered less than the servant. He said that he favored co-operation of and by the growers. The discussion on this paper was deferred till afternoon.

Prof. McClatchie continued his talk of plant life, taking up the fungi. He spoke of their lack of chlorophyll or any other coloring. The fungi lives only upon organic matter, usually upon that which is decayed. There are two kinds, one is the parasitical, and the other is the saprophytic. In Arizona where the Professor lives, there are an exceedingly small number of fungus plant; tomato blight, crown gall, and some others.

The blue mould such as appears on stale bread and other places are everywhere present, even every breath which we draw may take in the spores of this mould. High temperature will kill the spores of all fungi, but it requires a higher temperature than does the bacteria. In the canning of fruit where there was sufficient heat to destroy all bacteria, so that the fruit remained sweet there yet remained spores of fungus growth as is seen at the top of fruit, sometimes covered with mould.

Mildew is different from fungus growth in this, that it will live on living matter. The mildew of the grape, rose leaf and others were mentioned as examples.

The yeast plant is a fungus which when placed in the dough of the bread and given a high temperature increases with enormous rapidity, creating in its growth alcohol. And when placed in the oven all the yeast plants are killed, the alcohol is driven out of the bread by the heat, and it leaves the empty cells that the germination of the plant had created.

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WEDNESDAY AFTERNOON.

The first question out of the box was, is it a fact that oranges picked from the same trees during different seasons of the year have different qualities? Decidedly yes. Those picked while the trees are in bloom, or after the heavy rains are not so good. Mr. Dreher also added that fruit picked from the inside of the tree is much better than that picked on the outside.

Must dewberries be trained up on a trellis or may they be pruned back? The best results are obtained by training them low on wire supports.

What is the best earliest dewberry of this section? The earliest berry of this section is called the "Mortgage Lifter," brought here from Austin, Texas. This will sometimes bear in January and February, but always exceeding the earliest; but by far the best berry is Gray's Gardena Dewberry.

Has sulphate of iron any fertilizing value? None in the least.

What is the dust spray? Mr. Hall replied that San Diego county had used the dust spray for applying fungicides and insecticides. This is often effective and economical when used in hilly sections or where water is hard to get. Application should be put on mornings and evening when the leaves are moist. Mr. Taft of Villa Park has used them largely in New York and thought they were considered effective there.

What will kill cabbage worms? Buhach or Paris green. Through the possible danger of the latter, the former has the preference.

Is there better insecticides for chicken houses than crude carbolic acid. Prof. Cook preferred the lower grade distillate which is the cheapest and best he knows of. Dr. Sherman of Fresno recommended the addition of a little creoline.

Is the "Blue Curl" or turpentine weed, of value to keep away chicken lice. Mrs. Sherman said it was largely used about Fresno. Dr. Sherman tried it on calves and they ate it all up.

Secretary Reed, of the Semi-Tropical Fruit Exchange spoke in place of Mr. Naftzer, who was unable to be present on account of ill health. He reviewed the history of fruit marketing, referring back fifteen to twenty years ago when there was no occasion for the exchange or the commission man. The market readily absorbed every orange that could be grown at a price that would now make the mouth of the orange grower water. Later there seemed to be combination among the buyers, which finally merged the whole fruit buyers so that some ceased to buy, and the commission business came in, and then came disasters. One grower shipped twelve carloads and found himself in debt to pay the freight and expenses of these car loads and above all receipts of fruit, to the amount of $1800. It became necessary to do something. Over ten years ago the Exchange organized, and since then has had control of from 30 to 60 per cent of the fruit. A discouragingly large number of people hold their fruit outside, which is used to beat down the prices of the Exchange. For the first three years the f. o. b. plan was the only manner known for selling fruit, but the disastrous results under this system caused a change to the selling delivered. This plan was followed until April of this year, when a joining of forces with the California Citrus Union, an organization of the fruit shippers was effected.

In the discussion which followed Mr. Reed's paper, Mr. Stewart of Redlands wished to know that if the Exchange had been unable to control the markets, when it had 40 per cent. or thereabouts, how could it expect to with only 60 per cent, Mr. Reed replied that doubtless the percentage would be above 60 per cent(but the more fruit there was under control, the less conflict there would be. Mr. Chapman wished to know if any new members would be taken into the Exchange Mr. Reed replied that there certainly would. Any purchaser of orchard property, always having the option though of putting their fruit either through the Exchange or citrus union, as he might prefer, also under certain limitations others had the privilege of joining either organization.

Mr. Cutter of Riverside , thought that it was inconsistent for the Exchange to join hands with an organization which had worked along lines which the Exchange had always condemned. Mr. Reed replied that the fact is the Exchange had labored in vain, urged, and begged the different growers to join in and make a success which might be secured by handling a large percentage of the fruit. These growers had seen fit to remain out all these years, and now it is no time for them to file their complaints at any action the Exchange may see fit to take.

* * *

WEDNESDAY EVENING.

What is the value of grape cuttings as a fertilizer? But very slight, if any. Burned and the ashes spread would give quicker and better results.

What is the future of grape fruit? No very encouraging answer was given to this question.

Mr. Braunton spoke of wild flowers of California. Aiming to give no comprehensive list but showed specimens of ordinary flowers which were possessed of great beauty. The first plant which he exhibited was the Blue Curl, or common Turpentine weed, spoken of some weeks ago by Mrs. Basley in the poultry department of this paper. The odor of these plants was so strong that it was very noticeable all over the room.

The first plant spoken of was the Woodwardia fern which is largely grown in California. Mr. Braunton said that this was a good time of the year for planting them as the roots were nearly dormant, likewise the roots of the beautiful native maiden hair fern, may be secured from the mountains. Scarlet Larkspur is a beautiful plant which he showed. Mr. Braunton said that he would supply seeds to any one sending a self addressed envelope to him. Matilija poppy, California cream cups, climbing milk weed, mariposa lily, the common California poppy, and other plants of great beauty should be appreciated by California culturists, as they are by the German gardeners, who send here for large quantities of these seeds.

VEGETABLES.

F. Kahles, of Montecito—"Prof." Kahles—said he was no vegetarian, yet he believed in Californians having their own vegetable gardens. He showed that it was a vast deal cheaper, and that he could get much fresher and better vegetables than he could from the Chinamen, who he said did not know a little bit about gardening. He said that by his books which were carefully kept as to the cost of gardening and the cost of supplies of the house and for his men, he knew that a great saving was effected from gardening. And that while the garden truck cost something more than when he purchased, it made his butcher and grocery bill far less, by the more liberal use which was made of garden stuff when it was fresh and crisp.

FROST PROTECTION.

Dr. E. W. Reid of Iamosa, read an article on frost prevention which we will give in full at some later date.

Prof. McClatchie gave an interesting talk on experiment stations, the good done by them and the greater good which may be accomplished for the farmer.

* * *

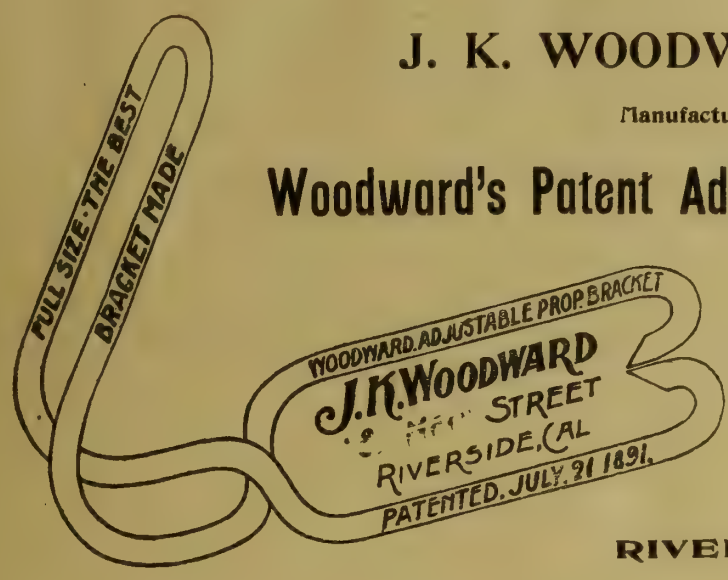
THURSDAY MORNING.

Prof. Cook opened with Insects and Prof. McClatchie continued his talk on the lower forms of plant life confining this morning's lecture to rusts, smuts, lichens, toad stools, and puff balls. This subject he said was but little interest economically to farmers, yet should be of greater interest because it appeared about them on every side. The rust of wheat is a most interesting form of plant life, and is distributed widely, and the growth sometimes becomes a serious pest in localities where the atmosphere is damp. Smut of grains is a growth which may start with the seeds, and then proceeds to the stem, until it matures in the grain, and appears as a great mass of smut, to the serious detriment of the grain. Lichens grow on trees, rocks, and elsewhere, but it is not a parasite, but gets the substance for its growth from the algae surounding them, and living on the increase of the plant. Toad stools and puff balls were merely referred to, and the professor said that all were edible except one variety, and that they were very nutritious food. The one variety, however, is a deadly poison.

Elwood Cooper's paper on Food Adulteration, Mrs. Sherman on Successful Grape Culture and other of the papers will be quoted from next week.

Also at that time will be given the committees with their reports, resolutions, etc.

J. K. WOODWARD A. A. GAMBLE



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As we are about to open the propping season we wish to call your attention to the Woodward Adjustable Tree Prop Bracket. You well know its merits over all other Prop Brackets, so we do not have to go into any lengthy details. Our prices the coming season will be $17.00 per M. retail. Same discount to the trade as formerly.

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Shall We Extend Our Citrus Groves?

By N. W. Blanchard, Santa Paula.

To intelligently answer this question, we want to view the past, the present, and forecast the future as well as we can.

What I shall first say bears upon the orange, not the lemon industry.

The following is a statement of orange and lemon shipments for the past eleven years.

Season.	Lemons. (Cars.)	Carload. shipments.	So. Cal. shipments.
1891-92		4016	
1892-93		4400	
1893-94		5871	
1894-95		5022	
1895-96		7575	
1896-97		7350	
1897-98		15,840	15,153
1898-99		10,875	10,351
1899-00	1447	18,460	17,809
1900-01	2913	24,954	24,096
1901-02	1736	20,387	17,387

The cars of lemons shipped in the last three years were 1447 cars in 1899-00; 2913 cars in 1900-01 and 1736 cars in 1901-02, and included in the shipments respectively for the same years given above. This year's crop will probably reach some 22,000 carloads.

Good judges of the citrus industry are estimating next year's crop of this state at from 30,000 to 35,000 carloads, barring unforseen accidents. The bulk of this must be sold in the five months beginning with February and ending with June; say 5000 cars per month, an amount per month equal to the whole year's crop of nine years ago; can the railroads move the crop? Can the fruit be sold at a profit?

Besides this amount of fruit, Florida's crop for next year is estimated at two millions of boxes, over 6000 carloads. Florida has made another start in the growing of oranges since the great freeze of some years ago, that practically wiped out the industry, and when it raised about as many oranges as California now produces, and the growers have now located their orchards further south in the state and in warmer localities, and are making great strides towards their former large output.

The citrus crop of two years ago, 24,954 cars, less 2913 cars of lemons, was 22,041 cars of oranges, 35 per cent. above the previous year's crop, which, itself, was the largest crop ever grown in the state up to that date, 1899-00. The orange grower fared very badly and the profits were so small that it was an unremunerative year to many growers. It should be said, however, that the carrying qualities of the oranges were poor that year.

A year ago our citrus crop was 20,387 cars, from which take the lemons, 1736 cars, which left 18,651 cars of oranges. The fruit was good and sold at remunerative prices and the year was a profitable one.

This year the fruit was coarse and not sweet in the early part of the season, and the demand, in consequence, was not sufficient to take the shipments at the usual prices, and shipments were held back until the oranges became so ripe that they had to be moved. May shipments of this year were 3405 cars as against May shipments of last year of only 1486 cars, and the consequence was the markets were flooded, were so overstocked that many cars did not bring freight and packing charges.

The lemon industry, notwithstanding the losses of the past by many in growing lemons, has a bright future for some years to come. The land in California suitable for lemon culture is more limited than that for orange culture. I do not know if the lemons do so well in the tropical regions as oranges. Our hot valleys cannot compete in lemon culture with the region that has a more cool and equable climate, nearer the ocean.

The present amount of lemons grown in the state is about one-third of the amount consumed in the country, and the new method of handling lemons and the successful keeping of them from the fall and winter months until the summer months, when they are most wanted and most valuable, makes the outlook for lemon culture much more promising than that of oranges.

Fumigation or Distillate Spray?

By R. C. Allen, Bonita.

Most of us citrus fruit growers from the sea coast as far back as Riverside have occasion to ask ourselves: Which shall it be? and we don't all answer the question the same way. Indeed, in some localities there seems to be a battle royal over this matter; but I am bound to say that most of the heat in this argument is shown by those who favor fumigation—more especially those who sell cyanide. The mystery is why, if distillate spray is the destructive and wholly evil agent it is claimed to be, they cannot trust to its early abandonment. The orchardists of Southern California have been generally accounted a fairly intelligent body of men and one would suppose that they could be trusted to drop the use of a process which is ruining their orchards without the necessity, on the part of those whose financial interests are touched, of maintaining an organ and flooding the country with circulars describing the injurious work of distillate. Indeed I may say that one of the first things that convinced me that there must be real merit in the distillate was the very evident fear of the cyanide people that something at last had been found which would be a serious inroad on their monopoly.

The fact of the matter is that both these methods of coping with the scale pests are valuable, and that the circumstances of the case will determine which is the proper one to use. It is not necessary to choose between an evil and a good, but between a good and a better, whichever way one may chance to think. Experience has not, perhaps, even yet gone far enough to say in every given case which is the better remedy. Fumigation, properly done, is a very perfect and satisfactory method where the hatch of scale is even and all can be caught by one operation; where the hatch is uneven, it is likely to prove too expensive. Not many growers feel that they can stand two operations each year.

For some eight years I relied almost entirely on fumigation and generally with satisfactory results. Starting when the trees were young, it appeared to be an easy matter to keep the scale in subjection and I was encouraged to believe that an annual fumigation would keep trees and fruit commercially clean. The orchard, however, being in the coast district, I found the scale gradually encroaching on me and at last I reached the point where at least two fumigations each year would be necessary. I came to the conclusion that the business would not stand it and that, even if it would, there was no sense in throwing away money, if something else would give equally good results more cheaply.

I experimented with distillate emulsion, but found it uneven in its results both as to effectiveness and as to spotting the fruit. Then came the new process with distillate spray. After one year's experience with this I can say unhesitatingly that even a single aplication gave me better results than a single fumigation ever did, and at only one-third the cost. Fumigation within its area of effectiveness ought and probably does kill a greater percentage of scale on a tree than the distillate spray will; yet its range is not so great as the distillate, for the latter will kill some scale of all stages and is especially destructive of the young and eggs at the hatching period. It is true that gas will kill the young where the shell has begun to lift, but it cannot penetrate the egg. I tested this point very thoroughly once, with both the black and purple scale. Enough gas was used to singe the foliage. The scale was in process of hatching and the old shells literally full of life. After the tents came off I examined specimens daily under a compound microscope. Each scale was a perfect shambles with the corpses of the young mixed in with the unhatched eggs. Up to the tenth day no new life appeared and I began to hope we had made a clean sweep; but on that day the eggs began to hatch and we soon had enough young scale to stock the orchard, and a second fumigation would have been required for satisfactory and thorough work.

The action of the distillate is different. Its oily nature assists it to work its way under the edges of the scale and once there it is goodbye to both young and eggs. There is nothing left to tell the tale. Taking into consideration the greater range in the life of the scale in which the distillate can do its work, I believe that this spray will kill a greater percentage than fumigation will, where the hatches are badly mixed, although, as said above, if the scale is of one stage—and that the right one to treat—the latter will kill more, owing to its greater perfection of application.

Looked at from this standpoint fumigation is likely to find its advocates in the interior; spraying near the coast.

I cannot see that the distillate, used in the right proportions and properly applied—does any injury to a healthy, vigorous tree. A three per cent mixture seems about right for lemon trees and two to two and a half for orange and grapefruit. There may sometimes be a slight defoliation, but this is no more serious than the tipping back of the tender shoots with fumigation. In such a case the leaves which fall are those which would soon have dropped in the course of nature and have already ceased to perform any function. If the loss of leaves is serious, it shows either bad work or a condition of the tree such that it should not have been treated.

It may show that an improper material has been used, for not all of the distillate put up as tree spray is fit to use.

* * * * * * *

The merit of the distillate spray has been so abundantly proved, that failure must be laid at the door of the man doing the work. With a good machine, the right material and careful application, the result is certain. The large orchardist should own his machine and smaller ones should club together to buy one, so that the work shall be done by the parties in interest.

* * * * * * *

Now I find that the distillate spray is effective with not only the scales but the mites; not only the red and yellow spider but the silver mite, more to be dreaded than any other pest, for it wholly ruins the fruit and seriously injures the tree.

So far I have considered the distillate spray chiefly in its relation to lemon orchards in the coast district. for them it is an unqualified success, and will, I think, be the accepted remedy for scale pests and mites until something better is discovered. Taking into consideration its cheapness as compared with fumigation, I should expect to see it the favorite for lemon trees in all sections.

* * * * * * *

In regard to the use of distillate spray with orange trees I have not had experience enough to speak with confidence. As they require a milder dose it is evident that in so far the result will be less satisfactory than with lemons. If the hatch of scale is uniform, and we are dealing with one variety only—say the black—I believe that fumigation will give the bettter result, because under such circumstances one operation ought to do for two seasons. On the other hand if we are dealing with several varieties of scale or the hatches are uneven, it is likely that the cheapness of the distillate spray will more than offset any advantage that fumigation has. In fact the great expense of fumigation is only justified, even with orange trees, when there is a fair prospect of making a clean sweep, and thus spreading this expense over two or more seasons. In the work that I have done with oranges and grapefruit the spotting has been scarcely noticeable and not enough to injure the marketable quality of the fruit.

To conclude, whatever further experience may show with regard to the value of distillate in the interior country and in cleaning orange orchards, we already have abundant testimony that to the lemon industry of the coast it is a valuable friend which has removed an obstacle that seemed to threaten its very life.

IN THE POULTRY CITY.

Petaluma, Cal., July, 28, 1903.

Editor California Cultivator:

The magnitude of the poultry industry on the Pacific coast cannot be understood until one has visited Petaluma, the great poultry center. There the principal part of country life is the raising of chickens, and one may go in any direction and see nothing but chicken ranches, varying in size from 1000 to 12,000 laying hens. I am told that the net income of the average poultryman is from $5 to $60 a day, according to the capacity of his plant. Something can be learned on almost any poultry ranch, but the most interesting spot to visit while in Petaluma is the big plant of the Must Hatch Incubator Company. There one can see in process of manufacture all that is latest and best in appliances for successful poultry raising, incubators, brooders, and the many details of modern invention for the properly conducted chicken ranch. It is beyond my ability to describe this wonderful plant and I will merely say that it covers a whole block in Petaluma the various parts of manufacture being housed in large buildings peculiarly adapted for the purpose. In addition to the factory proper, which is equipped with the best machinery, yet intended for making the different parts and articles turned out in such great quantities, there is a large hatchery, which has a hatching capacity of 15,000 chicks a month. Then there is the big brooding house, where 9000 chicks may be seen in various stages of growth, thus practically demonstrating the excellence of the products of the factory. The quarters for the laying hens contain some of the finest specimens of the White Leghorn, the great business hen. The practical part of poultry is still further carried out by the Must Hatch people on their large ranch two miles from town, a visit to which adds considerably to the pleasure of one who has inspected the town plant of the company, as he can thus see all parts of poultry management in its present advanced stage of excellence. The incubators on this place are now being filled with eggs for the fall hatch, as it is now claimed that fall-hatched chicks are the most profitable. It is true that the hatches in the fall are usually small, owing to the low percentage of fertility of the eggs at that time, but that is made up by the rapid growth of both the chicks that do hatch and the money-making pullets that come in just at the right time to help fill the egg basket, when eggs are high in price. The principal seasons for hatching in and around Petaluma are the months of August, September and October, and again in January, February and March, and some in April. I have enjoyed my visit to Petaluma very much, and must say that the best advice I can give to a poultryman, beginner or old hand, is to tell him to go and see what I have seen.

B. E. A.

SEASIDE INSTITUTE.

Those who registered were:

Nahtan W. Blanchard, Santa Paula; Thomas Stone, Pasadena; E. O. Kennard, Glendora; P. C. Prescott, Covina; A. P. Harwood, Upland; A. W. Woodford, Upland; T. Broads, Ontario; W. B. Wall, M. D., Santa Ana; M. R. Williams, Monrovia; R. V. Stone, Long Beach; G. E. Stone, Long Beach; J. S. Edwards, Redlands; D. W. McLeod, Riverside; Jos. Stephenson, Pasadena; Herbert Wilkerson, Lordsburg; Robt. P. Harley, Long Beach; James Barnhill, Colton; I. O. Bowen, Pasadena; Elwood Easley, Glendora; D. F. McLeod, Pomona; F. Kahles, Santa Barbara; P. Hirschfeldt, San Jacinto; S. D. Wilson, Long Beach; L. B. Cadwell, Carpenteria; Dr. J. Needham, Glendora; H. Stephenson, Riverside; I. W. Brink, Colton; P. J. Dreher, Pomona; M. D. Blackman, Orange; James Wyse, Long Beach; C. A. Brown, Duarte; Mrs. Minnie E. Sherman, Fresno; Thos. Wardall, Duarte; Birney Hand, Los Angeles; C. L. Davis, Murieta; A. T. Rogers, Long Beach, Silas Judd, Azusa; Mrs. Lois Reed Pichett, Riverside; H. M. Van Frank, Rialto; J. H. Reed, Riverside; James Boyd, Riverside; C. C. Clewett, Long Beach; C. A. Conklin, Compton; J. D. Moody, Los Angeles; C. E. Weedham, Glendora; C. D. Maxfield, Lakeview; J. R. Stearns, Los Angeles; R. Ellison, Covina; R. P. Cundiff, Riverside; J. A. Brook, San Dimas; S. A. Stowell, Charter Oak; W. J. Cox, Glendora; E. R. Meserve, Long Beach; H. D. Briggs, Azusa; W. A. Miller, Long Beach; C. N. Andrews, Redlands; F. A. Coffman, Rivera; E. Loper, Long Beach; Hervey Friend, Hollywood; Fred H. Lovell, Glendora; J. C. Robertson and wife, Pomona; J. V. Bartow, Long Beach; L. R. Christie, Covina; W. F. Stearns, Los Angeles; T. H. Crissey, Compton; S. A. Pease, San Bernardino; A. J. Cook, Claremont; Fred K. Maskew, Long Beach; Carroll B. Smith, Redlands; Alexander Craw, San Francisco; Geo. P. Hall, Los Angeles; S. Strong, Long Beach.

LIVESTOCK AND THE DAIRY.

By Leroy Anderson, Director of the California Polytechnic School, San Luis Obispo.

In April last the secretary of the Guernsey Cattle Club reported a record for butter production which stands as the highest official record of a two-year old heifer which has yet been made. The notable animal is Dolly Bloom, owned by Mr. F. L. Ames of Boston. During the year ending March 25, 1903, she produced 453.86 lbs. of butter-fat which is equivalent to 529.5 lbs. of butter.

In December, 1901, a six-year old Holstein heifer, Mercedes Julip's Pietertje, produced in seven days 23,487 lbs. of butter-fat, which is equivalent to 27 lbs. and 6.4 oz. of butter, when calculated on the same basis as the record of Dolly Bloom. This is the highest official weekly record for butter production today.

In our own Southern California we have some records of which we may be proud. The president of the Southern California Jersey Cattle Club has a beautiful cow. Gold Drop's Maud, which in four years produced 29,596 of milk and 2035.69 lbs. of butter, which is practically an average of 509 lbs. of butter per year.

A beautiful little Jersey, of which any man might be proud, is Rocky's Pogis Pet. She is reported by her owner, Mr. Moore, to have given him a net income profit in three years of $260.

These figures are an inspiration to any one who is engaged in the livestock business. They tell us that there are heights to be reached and rolls of honor to be gained for any one who will put brains and energy into his work of stock raising. It is records like these that brighten the path of daily toil and give us a gleam of hope for our own future in the vocation we have chosen. Moreover, the most beautiful feature of it all is that to bring our own stock to a higher degree of production and proficiency we have only to study and follow closely the laws of nature—than which there can be no more enlightening and en-no-bling occupation.

We look with wonder and astonishment upon the development of our manufacturing industries resulting from new and marvelous inventions. Your entire section of country is today threaded by electric railroads where a few years ago you found yourselves contented with a horse and buggy. Over a wire you talk with your friends in Los Angeles and San Francisco as freely as with your neighbor at your side; and now we are even talking miles through the air—and its not "hot air" either. How are these wonderful and vast things accomplished? Only by a careful application of nature's laws after a thorough study of her ways of working.

As you go about amongst your cattle and sheep and swine and poultry, do you ever think that you are in charge of forces of nature that are as intricate in their details and more complicated in their mechanism than those instruments which help us to communicate with a far-away friend or carry us quickly to that friend? What can be more intricate than the system of nerves and cells and blood vessels by which the cow secretes the milk which gives nourishment to all mankind. How that secretion varies in composition corresponding to influences from within and without and as yet comparatively obscure to the eye of man! It was my good fortune to conduct that most interesting test of Rocky's Pogis Pet at Santa Ana in October, 1902,, at the beginning of which her milk contained 11.4 per cent of fat. As I now recall, the succeeding milking reached something like six per cent of fat. This test is one of the best illustrations of how meagre is our exact knowledge of milk secretion.

It is unfortunately true that little consideration need be given to the intricacy of organic life in our domestic animals when their improvement is not the primal object. To such as are not familiar with the livestock of the country it may seem impossible that any man should keep stock and not be continually looking toward their improvement. But it does not require many days' travel through dairy and range sections to make it very evident that little intelligent thought is spent in this direction. This is why the average yield of butter per head is kept down to 150 lbs. per year. The natural pasturage, wet and dry, a little dry hay, and the cow may give large or small returns as her constitution permits.

But the breeds of livestock of which you and I are so proud were not reared in this fashion. We have no more interesting history in nature's development than that of the Short-horn cattle and how they have been raised from a scrawny, patchy, bony beast to a place amongst the most shapely of our domestic animals. When we read of the first Shorthorns and how Collins and Booth and Bates and Cruickshank and other energetic men labored and studied over them to remove their imperfections, we cannot help admiring these men for their zeal and foresight. We must also admit that they had a remarkable insight into the fundamental laws by which the animal kingdom is improved. The Shorthorn is not yet a perfect animal, but when we compare him with his ancestor of a century and more ago we see an advancement that is as great as it is lasting.

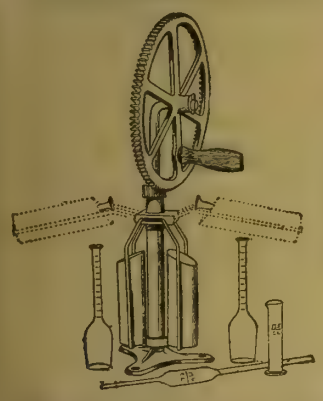
I once saw a picture of a Jersey cow of about 1830 and I wish I might describe her to you. You would not recognize her as the same breed that we are now so proud to call Jerseys. She resembled a zebu in form more than she did her present day descendants. There must have been much careful study upon the part of her admirers, for the first Jersey cattle that were brought to this country thirty years later were imported because of their beautiful fawn-like appearance, which entitled them to a place on rich men's lawns as a household pet. We still find them petable but their usefulness and importance as a producer of wealth far outweigh their once important place as a thing of beauty. Attention to feeding and breeding is making the Jersey a larger and stronger animal, more able to bear her burden of increased productiveness, and only the eye of the far-seeing breeder can foretell what the Jersey of a half a century is to be.

One hundred and twenty-five years ago the county of Ayr in Scotland is said to have possessed a most ungainly breed of cattle, and its unsightly form was not redeemed by any large degree of milk production. The introduction and intermixing of fresh blood from outside and the preservation of consequent favorable results by careful breeding had the usual effect. Today the Ayrshire cattle are a favorite in Canada and some of the Eastern states and a few of them have come to stay in California. There is no animal more comely nor more delightful to look upon than the Ayrshire. There is no cow giving a more nutritious milk though there are some which give larger and richer quantities.

And so I might go on for hours relating the chances in form and usefulness that our present domestic friends have passed through during a few generations of man. The story would not be confined to cattle alone. The horse presents a history that is to many people even more replete with interest and valuable scientific deductions.

Should you follow the development of the sheep, the first name of importance that would meet your eye would be that of Thomas Bakewell, the father of improvement of livestocks in England and the world. It was he who taught us that inbreeding was not only a safe but an essential practice in the origination of new breeds and the formation of useful breeds from seemingly useless native species. Your attention would be held no less by his work in improving the Berkshire pig than with the sheep. The much despised pig affords not the least important instance of what brains and energy can do in moulding the form of animals. Were I to attempt to picture all the transformations that poultry have passed through, there would be such an array of color and feathers that I fear you would refuse to fly to the heights I should point out and even accuse me of claiming too big a victory of man over the fowls of the air. It takes only a few years to make a white fowl out of a black one, and a ringed, streaked and speckled fowl out of a white one.

The end is not yet. When we thus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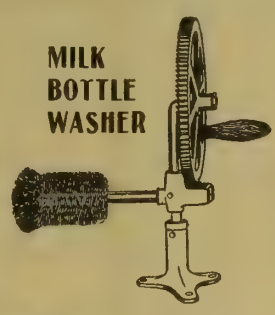

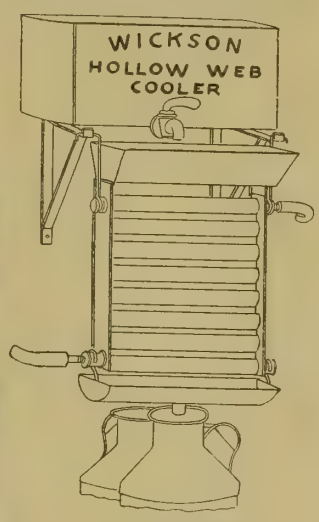

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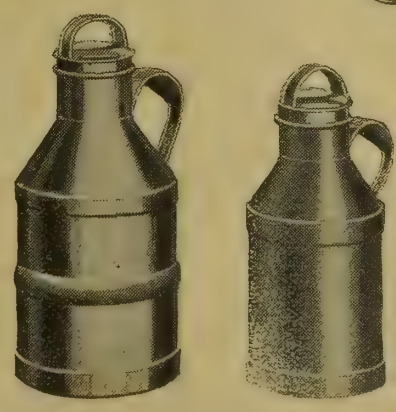
6 to 8 Milkers, 15
Tank and Brackets additional



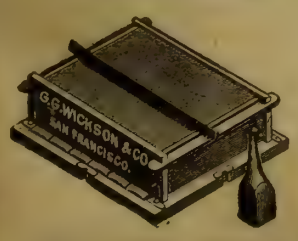
WELL-MADE MILK CANS WELL-FILLED

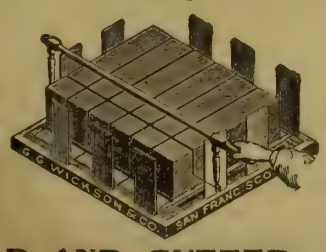
Not at the Well, but From the

SILO

Let Us Tell You How This Can BEST Be Done

OUR CANS HAVE ADVANTAGES in construction which you will appreciate when explained





BUTTER MOULD AND CUTTER

G. G. WICKSON & CO.

34-36 Main St., San Francisco. 123 N. Main St., Los Angeles

survey the past and learn what has been done to increase the comeliness and usefulness of the domestic animals we need have no fear that the limit of improvement has been reached. Those of us who are fortunate enough to be close to nature have no doubt as to the future of the breeds of livestock in which we are most interested. And our faith, therefore, goes out to include the whole animal kingdom which man has taken upon himself to improve. A few minutes ago I spoke of the advancement of the Shorthorn as a lasting ont. This is true of any improved breed only as the conditions and environment are perpetuated. I have seen three months of poor feed and care change a fat, round, thorough-bred pig to a thing so like the wild hog that you would swear that it could not have come from well bred stock. What is true of the pig is true of all livestock. Constant care and watchfulness is necessary to keep up the onward march of improvement.

And what is the reward of all this labor and care and thought? The reward is indicated in the records shown you at the beginning. You shall have the pleasure of possessing better animals than your neighbor. Your treasure shall be increased because of the increased usefulness and productiveness of your flocks and herds. You shall stand among the inventors and benefactors of our people because you have done something toward mastering nature's laws and harnessing nature's forces. Who does not envy the place of Luther Burbank in the esteem of man and in his closeness to nature? And above all, by this close communion with nature you shall become a broader and a nobler being.

The dairy side of my subject has given way entirely to the livestock. Yet the same principle runs through one as the other. Everywhere it is nature and her elements working uuder the control of man toward the development of some product. The dairyman who best knows chemistry, physics and bacteriology is sure to make the best butter and cheese. I often wonder which is the more enjoyable, to care for a cow in the way to make her most comfortable and most productive or to stand over a cheese-vat and so control nature's forces at work in the milk as to turn out a cheese that will please the taste and best nourish the body. Both have their pleasures and both require a large amount of thought and study.

I did not come before you to tell you something new—to try to teach you some fresh facts. My mission has been to bring a word of cheer and hopefulness to the man who is spending his physical energy in the dairy and ranch—to lay before him as I have previously tried to do, some of the pleasures and joys of country life; and to show everyone that agriculture is not all drudgery. If the worn out city man wants to get rest let him come back to nature by living with and caring for a few horses, cows, pigs or chickens. I will count my journey to you worth while if I have pointed out to only a few how they may get a larger enjoyment out of life by a deeper study of the ways of nature.

The dairymen in the vicinity of Tulare are preparing to start a creamery.

The creamery at Livermore, owned by a stock company has been closed out and a dividend of 47.93 per cent paid to holders of stock.

A new creamery is being built at Colusa, and machinery will be in place by the middle of August.

While the date for the Jersey exhibit to be held at Los Angeles this fall has not been set, yet we can assure Cultivator readers that the committee in charge are at work and in a very short time their plans will be made public. Get your Jerseys in good condition for tests and exhibition.

The supervisors of Los Angeles county recognize a long felt want and have ordered the construction of a bridge over the San Gabriel river near Azusa.

Chicks and lice cannot thrive at the same time. It is easy to raise a good crop of lice, but if you would have your chicks grow and develop, get rid of the lice; you cannot raise both successfully.

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

SHOULDER CALLOUS.

What would you advise to take a bunch from a horse's shoulder, that has been on for a long time. It is about the size of the yolk of an egg and right on the point of the shoulder. —Subscriber.

Cut it out, and treat the wound anticeptically and allow the horse to lay off until it heals.

* * *

PARTURIENT PARESIS OR MILK FEVER.

One of our Humboldt County subscribers has a cow six years old, that had trouble with her first calf, and had to be aided. Second and third all right. Moderate good condition. Last calf came in afternoon. The cow appeared lame in hind quarters at evening milking time. Was down next morning and could not get up. Appeared to be affected in hind quarters. Gave one ounce alloes, it operated. Eyes bright and normal appearance. Good appetite, and no apparent reason for being down. Cow died 4 p. m., or about twenty-eight hours after droping large calf. What was the trouble? How may I avoid repetition of it?

Don't let your cow get too fat just before calving, and leave a little colostrum in the udder for a couple of days.

* * *

STERILITY.

Pasadena, Cal., July 21, 1903.

Dr. Fenimore—I have an excellent cow that I have been taking to the bull all winter and spring, without getting any satisfaction. Some say I let her go too long but I never had any trouble before. She has been giving milk now over a year, is in good flesh and appears in perfect health. Can anything be done or is the case hopeless? I have taken her to but one bull, as I think he is all right. Please answer through the Cultivator.—O. F. H. Pasadena.

This may be from a number of causes. Common among which is inflamatory troubles of the genital passage at the time of last calving, causing adhesions and obstructions. Fat cows sometimes fail to conceive. In this case give one-half pound of epsom salts a couple of days before she comes in heat and keep on a low diet until after conception.

* * *

WILL BREED.

Editor Cultivator:- A subscriber wishes to know if there is any truth in the statement that twin heifers will not breed.

Twin heifers breed. Twin bulls breed and a twin heifer and bull breed, yet occasionally with them, as with singles, there is one that does not breed.

* * *

SALIVARY CALCULI.

Hollister, July 24th, 1903, Dr. H. D. Fenimore. One of my cows has a lump on the side of her face or jaw. It is about the size of an egg and is about half way between her nose and the heel of the jaw, and moves back and forth when she chews or drinks. It is perfectly hard and smooth, there is no discharge or sign of a sore. She seems well and eats well. has been and is now on dry pasture and I know of no cause for same. Can you tell me what to do to cure or remove the lump? Please answer through Cultivator. Subscriber, Hollister.

Cut it open, take out the contents and dress the wound once a day with an antiseptic.

* * *

QUESTION.

Dr. H. D. Fenimore: I have a cow that has the scours bad. has had it for nearly a year. I have tried different kinds of feed but it did no good. She is just fresh, but gives very little milk. For a long time she has had a swelling under her chin which I think has something to do with the trouble. The swelling seems to be between the skin and flesh. It swells from the throat to the chin. is not sore. When she feeds steady it swells more when she chews her cud, the swelling almost disappears. When she scours more, there seems to be no undigested food pass. She is on good pasture and has a rack of barley hay to feed at, but does not eat much dry food. When she swells most it seems to make her tongue stiff; she is not an old cow. What is the matter with her and what can I do for her? Please answer in Cultivator.—E. A., Westminster.

Your discription sounds like a serious disease. Test with tuberculine for tuberculosis. If she does not respond to that, then look out for haemorrhagic septicaemia.

"Does it cost much to live in the city?" asked the rural youth.

"About the same as it costs to live in the country," replied the village sage, "but it costs like fury to keep up appearances."—Chicago News.

Winkers—Why is it that women always dislike a prominent man who is an old batchelor?

Binkers—Because they can't say that he would never have amounted to anything if it had not been for his wife.—New York Weekly.

Removal Notice

OF

The Cutter Analytic Laboratory

On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from **Fresno to Berkeley.**
Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is

The Cutter Analytic Laboratory
Rialto Building, San Francisco

OUR SPECIALTY IS

CUTTER'S BLACK LEG VACCINE

If your druggist does not stock our products, order direct from us. We pay all transportation charges.

TO FARMERS, STOCKMEN, DAIRYMEN:

SUGAR BEET PULP
(Kow-Sauer-Kraut)
also MOLASSES
FOR SALE

"KOW-SAUER-KRAUT" 50 cents per ton F. O. B. cars or wagon fresh from factory. Conceded to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.

MOLASSES, 75 cents per barrel. Consists almost entirely of carbohydrates, (sugars) cheapest and best food for fattening stock of all kinds. Send for testimonials regarding feeding value of molasses for **working horses, fattening cattle** and **growing pigs** and **calves.**

Los Alamitos Sugar Co., Los Alamitos, Cal.

Largest Poultry Supply House in the United States

For Diseases of Cows
KOW-KURE
is the most marvelous in its action of any known food (for cows only)

LEE'S STOCK CONDITIONER
for the prevention of disease and as a general tonic it has no equal

PRIME COTTON SEED MEAL

"The Economic Feed."

Greatest Milk and Butter Producer
Used Exclusively by
Leading Dairymen

Use
FLYO-CURO
to rid stock of flies and insects

Use
BAG BALM
for cow's bags only; it insures best results

HENRY ALBERS

315 S. MAIN ST. LOS ANGELES, CAL.

—F. A. MEACHAM—
BREEDER AND IMPORTER OF
RED POLLED CATTLE
SHROPSHIRE AND
AMERICAN MERINO SHEEP
Both Sexes For Sale
Live Oak Ranch PETALUMA, CAL

FOR SALE
YOUNG HOLSTEIN BULLS
Percheron Brood Mares and Stallions all Registered. Write or call.
Miinewawa Stock Farm, Fresno, Cal.

The Orchard and Farm suggests the naming of the ranch homes. This has often been done in various parts of the state, and we believe adds interest to any place to which an attractive and euphonious name is given.

THOROUGHBRED POLAND CHINAS
Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons, KINGSBURG, CAL.

THOROUGHBRED BERKSHIRE HOGS
FOR SALE
GEO. C. ROEDING, FRESNO, CAL

THE U. S. EXCELS ON ANY TEMPERATURE

Our "would-be competitors" the DeLaval Separator Co., finding themselves badly beaten in the six weeks' tests of six different makes of Separators at the Kansas Agricultural College, as shown by the official Bulletin No. 123 issued May 26, 1903, in their efforts to break the force of so disastrous a defeat, have compiled a Bulletin of their own "getting up" purporting to be signed by several students, in which they try to make it appear that the DeLaval was not terribly beaten, as the Official Bulletin shows it was, as follows:

Average test of skimmilk of DeLaval Separator	.048
" " " U. S. "	.033
U. S. excels DeLaval	.015

Showing that the DeLaval Separator left 45 per cent. more butter fat in the skimmed milk than the United States.

Again in this "gotten up" Bulletin, our "would-be competitors" state that the U. S. Separator "choked up" on 39 lbs. of milk at 70 degrees of temperature and that the DeLaval ran 80 lbs. Every dairyman using a U. S. Separator knows that the U. S. will not "choke up" on 80 lbs. of good milk at 70 degrees, and that such statements are made in an attempt to break the rapidly gaining popularity of the

U. S. SEPARATOR

We make the following proposition to any dairyman wishing to buy a separator, viz.: We will put a U. S. Separator into his dairy and agree that it will not "choke up" on 80 lbs. or twice 80 lbs. of milk in good condition at 70 degrees, provided he will pay for the separator if it does not "choke up."

The best authorities do not advocate separating at 70 degrees, but if Dairymen prefer to, the U. S. will do it when properly adjusted.

The U. S. Separator skims cleaner than any other separator on the market at any temperature from 70 degrees to 156 degrees at proper adjustment. The Official Bulletin No. 123 of Kansas Agricultural College, dated May 26, 1903, states that

The U. S. Excelled All Others in Tests of Skimmed Milk and in Minimum Total Loss.

THE U. S. SEPARATOR HOLDS WORLD'S RECORD

Vermont Farm Machine Co., Bellows Falls, Vt.
320

SLEEPY HOLLOW HERD OF HOLSTEIN CATTLE

We have just received from the Eastern States two carloads of officially tested cows. This has overcrowded us for the present, and to make room we are offering some excellent young cows for sale. They are all in calf to our great herd bulls, and right now are in fine condition to ship. For full particulars write

R. M. HOTALING
Rialto Building San Francisco, Cal.

IT'S THE RECORD!
THERE ARE IN USE 400,000
De Laval Cream Separators
and the demand still grows.
No farm or dairy complete without a De Laval.
We carry the largest stock of Dairy apparatus and supplies on the Pacific Coast. Send for catalogue.
DE LAVAL DAIRY SUPPLY CO.
Portland, Or. 65 Front Street | San Francisco 9-11 Drumm St.

The foreman of the H. G. Hamilton Dairy is now in the east looking after some new Guernsey blood with which to improve Mr. Hamilton's dairy. He reports that the Guernsey is on a boom at the present time, and that prices are exceedingly high in all parts of the east. Mr. Hamilton thinks the Guernsey has a special value, and adds color and richness to the bulk of his milk.

Fifteen thousand seven hundred dollars is the price paid on a Poland-China hog. Ideal Sunrise, owned in Disco, Indiana. This hog took first prize at the World's Fair in 1893. Fifteen thousand dollars for a ten year old hog seems like hogs are up.

The twenty-first annual sale of Herefords at Chillicothe, Mo., recently aggregated $11,635 for 50 head, an average of $233.

The loss in meat and in live beef to Swift &Co., by the Kansas flood aggregated $200,000.

G. Y. Coutts, of Orange, writes that he has sold his young Jersey heifer, Dottie Dimple 2d, to a Mr. Wheeler, who had before bought stock from him. Mr. Wheeler, before starting in Jersey breeding, was a breeder of fine driving horses.

THE HORN FLY.

A dairyman located in Madera county reports serious trouble with his herd from attacks by what he calls black gnats, which cluster about the head and ears of the stock. The pest is undoubtedly what is more properly known as the horn fly, from its manner of attacking cattle. In some parts of the country they become a serious annoyance to dairymen by causing distress and loss of milk among the herd. Considerable relief may be given by applying grease to parts where the flies are thickest.—D. and P. Riview.

THE FARMER'S AUTOMOBILE.

It is announced that inventive genius is at work on a farm automobile which will do the work of several teams besides makes life a luxury for the driver of the machine. Why should not the application of the motor principle to farm work come? It may take several forms, but any one of them will be beneficial if they are practical. The most feasible idea we have seen suggested is one that combines a motor truck in such a way that it can be used as a wagon or for hauling light wagons or other vehicles behind it, that would also have sufficient power for dragging the harrow or cultivator, also with fly wheel attachment so that the motor can be used for supplying power for running ensilage cutters, pumping water, sawing wood and all the other manifold purposes for which a light power can be so profitably employed on or about the farm. The gasoline engine has already worked wonders in American agriculture, and no series of articles has attracted greater attention or has been more used than those which have graced our columns during the past year on the use of gasoline engines and other farm powers. But the application of these mechanical powers to the farm is just in its infancy, and it will not be long until some bright mind will seize the idea and create a machine which will do the work required. There is a fortune in this for some one.

The farm separator has changed the opportunities of the farmer for making good butter—more of it—and still have a better quality of milk for his calves than he had under the old system. Every farmer can now make good butter that will sell at the top of the market, instead of making poor butter that sold at the bottom of the market.

BEE SUPPLIES—G. G. Wickson & Co., 123 N. Main Street. Los Angeles, Cal.

Doctor: "My dear madam, there is nothing the matter with you—you only need rest." "But, doctor, just look at my tongue!" "Needs rest, too, madam."

JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA
GUY H. MILLER, President, Riverside
E. E. MOORE, Vice-President, Compton
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Organized for the advancement and development of Jersey Cattle Breeding in So. Cal.

Ramona Herd
REGISTERED JERSEY CATTLE
Geo. W. Thomas, Riverside, Cal.

FOR SALE
Gold Drop's Gladys, 170236. Sire, Sunmaid's Gold Drop, 34272. Dam, Lotty's Gene, 117516. Dropped Jan 4, 1901. Price $100. W. Jay Cole, Anaheim, Orange Co., Cal.

MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

G. Y. Lytle
HIGH GRADE, STANDARD BRED JERSEYS
2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
GEO. Y. COUTTS Orange, Cal.

LEMONITA HERD
Leffingwell Rancho, Whittier, Cal.
Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
Terms reasonable. Liberal reductions to those coming from a distance.
No charge for service on cows having authenticated fat or butter records.

Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
E. E. MOORE, Compton, Cal.

Venadera Herd
OF REGISTERED JERSEYS.
Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices.
GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT Station B, Los Angeles

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.

FOR SALE
Sixty acres, two deep artesian wells; good cottage, large barn; 15 acres alfalfa, grove, orchard, etc. Water piped for domestic use; fenced and cross fenced. $7,000 is a low price.
Jno. A. Campbell, Buena Park, Cal.

JERSEY BULLS OF ALL AGES
FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY - DUARTE, CALIF.

TWO THOUSAND POUNDS A MINUTE

A. R. Coulson Tells About the New Mixing Machine and Why It Had to Be Built.

The large mixing machine recently completed is something new and it took a long time and lots of expense to make it work. This is the best mixing machine on the Pacific Coast, and it works so well that no doubt that many of the other mills will copy after it.

This electric machine will mix a ton of feed in less than a minute, more evenly and thoroughly than a man with a shovel could mix it in half a day.

Although this great machine cost nearly $1000, it will make a great saving in labor which will make up for the cost of the machine in a few months. Where it cost $1 a ton to mix feed by hand labor this machine will mix it at a cost of 25c a ton.

It was absolutely necessary to have this machine, no matter what it cost, because the trade on balanced rations for poultry and stock was increasing so fast that they could not be made fast enough with six men working by hand labor. Besides, a machine like this one mixes it more thoroughly and satisfactorily than could be accomplished otherwise.

My enterprise is bringing me success. Not only am I successful myself, but those who follow my directions and use my poultry foods are successful too.

This is shown by the ever increasing trade on my balanced rations for poultry.

C. J. McCarthy says he has made more money out of his hens since he has been feeding Coulson's food for laying hens than ever before. He is well satisfied with Coulson's balanced rations for poultry.

D. H. Ward of Cotati has been feeding Coulson's balanced rations for about a year, and has had such splendid success and made his hens pay so well that many of the other poultrymen have gone to him to find out what he feeds to make the hens do so well. Mr. Ward recommends Coulson's balanced ration for poultry.

E. D. Callon of Fallon, who has about 5000 head of poultry, has used a number of tons of Coulson's' poultry foods and recommends it to be all right.

Geo. W. Gaston of Two Rock has 2500 laying hens which are paying him well. Mr. Gaston has fed about 300 sacks of Coulson's balanced rations for poultry and recommends it to be all right.

A. M. Shread, assistant postmaster at Jacksonville, San Joaquin county, writes: After having used Coulson's balanced ration for poultry I wish to say that it is all that it is recommended to be, and that really it is the best food that one can feed, and it is quite a saving on other food stuff, as it is richer and gives better results."

D. F. Colley at Downey, Los Angeles county, when sending for another ton of Coulson's egg food for laying hens, writes: "My hens are doing well now and I think Coulson's food is what makes them lay so, and I do not want to get out of it. The hens like it and it don't take much to fill them up, as it is a richer food. It costs me 50 cents a sack freight so make the price as cheap as possible."

L. J. Howell at Hollister has used over 100 sacks of Coulson's poultry foods and his hens are laying an average of 60 per cent. that is 60 eggs a day for each 100 hens.

Miss K. L. Richardson, an enterprising young lady at Malaga, four miles from Fresno, is making her poultry venture a success. Miss Richardson has ordered over 200 sacks of Coulson's balanced rations for poultry during the last four months.

S. W. Morgan, a breeder of fancy poultry near San Diego, has a supply of Coulson's poultry foods shipped by steamer every three or four weeks.

Many of the fancy breeders in Ventura and Los Angeles county now feed Coulson's balanced rations for poultry.

Mrs. Riley at Biggs, Butte county, orders ten or twelve sacks of Coulson's egg food at a time to be sent by freight.

Many other parties in Placer county, Toulumne county and Yolo county, order a supply to be sent by freight once a month.

Cnopius & Co., Santa Rosa, write: "Please quote us your lowest price on a full carload of Coulson's balanced ration for hens." This firm has already sold over 1000 sacks of Coulson's food.

Extracts from letters:

"We are entirely out of Coulson's egg food and Coulson's chick food and our customers are howling for it. So please see that our order goes forward at once by first freight."

"Enclosed find check for $168.70 to pay for last shipment of Coulson's egg food."

"Please ship at once to Germain Seed Co. by steamer to Los Angeles, 20 bags of Coulson's balanced ration egg food. There is quite a demand for it."

W. T. Park, of West street, one of Petaluma's progressive poultrymen, proved by actual experiment that Coulson's food for hens would make hens lay and grow feathers at the same time.

He bought from a neighbor a flock of 50 hens which were all run down. Their combs were black and they were a hard looking lot. He put them in a pen by themselves and fed them Coulson's egg and feather food and in two weeks they were all growing new feathers and over half of them were laying. Mr. Park uses Coulson's food right along.

There are hundreds of others that are using Coulson's poultry foods right along and are making a success of it.

Coulson's balanced ration for poultry is now on sale at most up-to-date feed stores, or if not, you can order from factory and have it sent by freight.

Zartman & Co. are building a new advertising wagon for Mr. Coulson. It is to cost about $125 and to have a low top and the inside is to be fitted up with shelves and a door on the end so this wagon inside will look like a little store. Charles Mills will have charge of this wagon and will take a four month's trip down in the southern part of the state as far as Mexico. Another wagon similar to this will be built for the northern country.

If you are not using Coulson's balanced ration, why not give it a trial and make more profit out of your poultry. Coulson's food will be as cheap as any other good feed and it will make your poultry give you double the returns on the cost of feed.

Ask your feed dealer for Coulson's food and don't let them sell you something else which they may say is just as good, because they want to sell you something that they can make more money on.

Remember it is Coulson's that you heard so much about, it is Coulson's that gives such good results, and it is Coulson's food that you want.

Following are a few items at random as samples from my daily mail and given here to show what people think of my poultry foods:

Hollister, Cal., July 1, 1903.

A. R. Coulson. Dear Sir: Please ship to me at your earliest convenience one carload, 350 sacks, Coulson's Egg and Feather Food. R. C. GURY.

The Western Union Telegraph Co.

Salinas, July 15, 1903.

A. R. Coulson, Petaluma, Cal.—Ship to W. J. Fair, Salinas, one carload, 350 sacks, Egg and Feather Food and 25 sacks Chick Food.

CHAS. MILES.

L. S. Butler writes from Los Gatos: "I have used half a ton of Coulson's Egg and Feather Food and like it very well. Will soon want more of it."

John Lants of Sacramento writes: "I have used Coulson's and other kinds of egg food, but Coulson's is the best."

Hollister, Cal., July 11, 1903.

To Whom it May Concern:

I, the undersigned, started to feed Coulson's Egg and Feather Food to 250 chickens which were moulting. At the end of ten days I found that my egg production was increased 50 eggs and am fully satisfied with said food.

H. A. Hall.

Hollister, Cal., July 10, 1903.

To whom it may concern:

I, the undersigned, have fed Coulson's Egg and Feather Food to my flock of poultry consisting of 1000 for six months and can cheerfully recommend the feed to any one raising poultry as a cheaper feed and an egg producing feed. Signed, W. K. Goff.

Calistoga, July 11, 1903.

A. R. Coulson—Dear Sir: Enclosed find $7.75 for which please send by freight 5 sacks more of your Egg and Feather Food for moulting hens. So far I am well pleased with results. Yours respectfully,

MRS. E. BANTA.

Santa Rosa, July 13, 1903.

A. R. Coulson—Dear Sir: I write to tell you I have been using your food for about a year and am well pleased with results. I have been keeping hens for over 20 years and never had them do as well as they have since I have used your food. Yours Respectfully, G. J. CUNNINGHAM,

D H. Ward, one of the most successful poultry raisers at Cotati, has been feeding Coulson's Egg and Feather Food for 1 year and has used about 200 sacks of it. He recommends it to all parties raising poultry as it proves to be the most satisfactory and economical of all feeds. Last winter when eggs were bringing 55 cents a dozen Mr. Ward had 500 laying hens that laid an average of nearly 250 egs a day, and were fed on Coulson's Balanced Ration Egg Food.

C. N. Davis says that by feeding his hens Coulson's Egg Food for two weeks the hens have doubled the egg supply and are moulting too.

$500 IN GOLD.

Hollister, Cal., July 9, 1903.

A. R. Coulson—Dear Sir: I send you today $500 in gold by Wells Fargo Express, money collected for Coulson's Egg Food sold at Hollister. Your respectfully, CHAS. S. MILES.

Haywards, July 22, 1903.

A. R. Coulson—Dear Sir: Enclosed find check in payment for last lot of Egg Food. Please ship at once one carload, 350 sacks, Egg and Feather Food; also 1 dozen packages condition powder, 1 dozen cans Coulson's Disinfectant, 1 dozen 50c bottles of Roup Cure.

The Egg Food is selling well here. It gives good satisfaction and we have quite a demand for it. Yours Respectfully,

Kavanagh, Shuey and Gibson.

(By telegraph.) Malaga, Fresno county, July 24, 1903.

A. R. Coulson: Ship to R. Porter, Malaga, 1 car load Egg Food.

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A. R. COULSON

772-774 Main St., Petaluma, Cal. Long Distance Telephone, Black 1303

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

HOW A START WAS MADE IN RAISING PIGEONS FOR SQUABS.

One of our new subscribers to the Cultivator has asked for an article on pigeon raising. I would refer him to the description of the largest pigeon ranch in the world, located at Los Angeles, which was given in the Cultivator of May 22nd.

Frances E. Wheeler contributes to the Poultrykeeper the following interesting account of "How a Start Was Made."

Some time ago I promised our readers to give an account and description of my first dove cote. As perhaps I told you before, a party closing out offered me the pigeons and I engaged forty pairs; but when my birds arrived there were just eleven in all; four pair, the rest males! It was claimed that the others had been stolen. Well, the disappointment was swallowed, cheerfulness reigned, as "Despise not the day of small things" came to my mind; and we set about converting a 3x3x3 packing box into this little two-story home, hoisting it onto a post, in the glen. Over both sides we fastened wire netting and placing a short ladder against the post, climbed up and thrust the birds through a small aperture and fed and watered them there for a couple of weeks, when they commenced to build nests.

We then took off the netting ((this was in July) and all summer long and well into winter they were no care whatever, but lived and raised their young in this little house—about twelve pairs in all—feeding on what the ducks left. It was a pretty sight—their graceful ways and flights; but their home proved ill adapted to our severe cold; so, to save their lives, we climbed up again one bitter cold night, caught what we could and housed them in with the ducks.

* * *

Getting Into Bigger Quarters—Then they wintered very comfortably, but we lost quite a few by the change and they did not re-commence to lay until some time in March, by which time they escaped, most of them, from the duck house, and many returned to the glen cote. Finally, in the spring, I decided to shut them up and take proper care of what was left.

Our boundary line fences are built of wire netting, two-inch mesh and five feet high, and at the road and gate angle the netting ran back about twenty-two feet (seven feet high) for the sweet pea hedge. Then we measured off a plat of about 22x16 feet and using nine and a half feet small cedar posts, utilized the sweet pea corner and wire netted the other two sides and top. We used sixteen posts in all for the enclosure, bracing them with trimmings from the saw mill on top, bottom and middle.

For our house we took another packing box and rigged up the inside much like the previous one, only we ranged the boxes on three tiers of shelves inside and gave the pigeons an entrance at each end of the house, and we had a large door for ourselves. It was built very much warmer than our first house. The entire cost of this fresh start was $5 and we had accommodations for thirty pairs of pigeons.

And the Ball Kept Rolling—When we caught our birds and put them in their new home we had ten pairs. There were three pairs of half grown birds and four nests of eggs lost. The parents let the little birds starve. They would not feed them after they had been handled and moved, and so it also proved with the eggs. But after recovering from this last break-up, we sailed along beautifully smooth. In May seven pairs were hatched, and with this encouraging start, the ball kept rolling all summer long.

* * *

A Comparison—In a corner of their yard we sank a tub and kept it filled with fresh water, and under the house on a little table kept their food, grit, salt and oyster shells, and nest material. We fed them corn, buckwheat, oats, barley and red wheat, and whenever a pair of squabs left the nest it was cleaned out thoroughly. As compared with any of our stock—chickens, turkeys or ducks—they require very little attention.

* * *

Working up by Natural Increase—I don't know as I would recommend this way of starting in the squab business for others, and yet for me it had its advantages in being easy and inexpensive and affording an opportunity to study their habits and find out what I could do and what I wanted to do in building up on such a tiny and busy spot as Clovernook.

My plan was to work up the plant by natural increase to about one hundred pairs of pigeons and then sell the surplus sqquabs to the two large summer hotels where the ducks go, and the spot and style of house already described seemed to promise cheapest and easiest methods towards that end. If another change became necessary, we now knew enough to wait until the birds were able to feed themselves and before the parent birds had commenced on another hatch ere removing them from their homes.

But to meet the demand for thoroughbred breeding stock, I purchased two pairs of White Homers from Mr. Arthur Spiller, Beverly, Mass. They were certainly beauties; such style and grace of form and movements as were a delight to contemplate. It seemed as if we could hardly make a house quite good enough for these dainty creatures; but when our effort along this line was complete I felt modestly elated. It was made out of a 5x3 2-3x4 feet packing box. It had four tiers of nests (10x13 inches, with perches attached) on each side, four pairs of nests in each tier, and in the roof six more.

In each end, the width of the center aisle, we placed a large door, and over one a window. The house was double boarded, tar papered and clap-boarded, and every corner made snug and tight for winter with good ventilation for summer. It was large enough inside for food, water and a small oil stove if needed during storms. I had each yard locked, and cared for my birds myself.

* * *

The Market Demand—Really, for genuine enjoyment, pigeons ought to be kept by everybody, if even on so small a scale as I began with the Homers. Having at hand such a table luxury, at short notice, is sufficient excuse for the initiation of a plant like Clovernook's and there is no question but the local trade in squabs can be secured in almost any neighborhood, or nearby hotel or summer resort, at paying prices.

There is always a peculiar satisfaction in working up one's own market for one's own goods, especially when comparatively free from competition, as is now the case regarding squabs, compared to chickens, turkeys, etc. The local field is practically new and the prospects of the small, as well as the large producer, very encouraging.

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The largest poultry supply house in the United States
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I will ship you during July and August, freight prepaid, to your nearest R. R. station the following articles:

1 100-lb sack "Henteeth" (the best grit)	valuc $1 50
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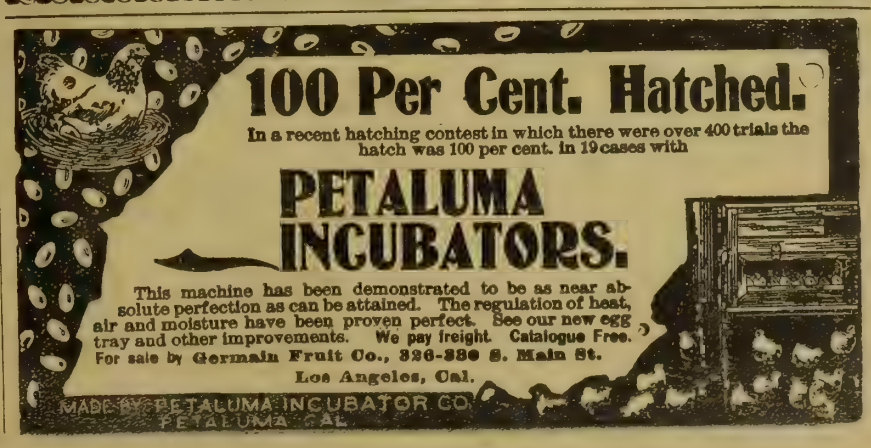


Some Domestic "Squalls."—Of course there are things to learn, bitter and anxious hours, as in any undertaking. At the time my beautiful pigeons let their little ones starve to death, I had an old Plymouth Rock hen "mothering" two little turkeys. She was lame and she was homely, but her maternal instinct and her patience with those "complaining whistles" was something to admire. She fixed herself in a box to lay, but their crying fussed her so that she finally came out and while they snuggled under her, deposited the egg on the ground.

* * *

Another excitement in the cote was between a white pigeon and her young five months old daughter. The white one made a nest in the roof and hatched a pair of babies and her young daughter cuddled up beside her and laid her first two eggs. For a few days all went well, but suddenly the mother seemed to realize that another set of babies would be very inconvenient on that floor, so she hustled her off the nest and out of the door. Now perhaps that daughter and mother and their respective husbands did not have high jinks for about two weeks over that nesting business! About this time I decided that an old hen was a pretty good investment.

They also developed a great tendency to fight, until I discovered that the rows were made by two lonesome bachelors. When we provided each with a nice little sweetheart they calmed down—became respectable citizens.

Even if, as in matrimony, the glamour soon disappears, and we find our pigeons very like the rest of the poultry world, still, it does not pay to be too critical. A little study, experience and patience smooths away many awkward looking predicaments, until finally we grow to be fonder of them than if they were less interestingly bothersome.

POULTRY NOTES.

See that fresh water is given the fowls at least three times a day, and see that the drinking fountain is kept clean.

Do not duck the hens that are disposed to set during the summer, and do not starve them. Put them in a coop and feed and water them for three or four days.

As fast as the chickens are large enough to market cull them out and sell them. The others will grow faster and be healthier.

A light feed of whole oats at night will be about all the hens need during the summer.

Take good care of the hens so that they will be in condition to molt early.

The chick that receives good care is the one that displays its good breeding.

Laying qualities are now demanding attention and they are not to be despised.

Separate the sexes in both old and young flocks during the balance of the season.

Just as much attention should be paid to size and shape of eggs as the number that the hen lays.

"What whole grains are best to feed to young, growing chickens that have been weaned by the hen and have free range?" Wheat, Indian corn, barley and oats in order named. A change of food is always desirable if convenient, but wheat is a very wholesome and safe food at all times and in any climate; Indian corn is especially good in colder sections where good pasture and forage is prevalent. Barley is a most excellent food, when obtainable, and should be fed more extensively than is customary. Oats when old and good make desirable food, but fowls do not relish them as a rule. Rice is another most excellent food if used in moderation, and acts as a preventive of diarrhoea. The broken rice used by the brewers is worth about four dollars a hundred pounds and answers just as well as the fine article sold at seven to ten cents a pound.—American Fancier.

By having a specialty, you become expert in a certain line of work, thereby producing something cheaper and at the same time of better quality than the fellow who dabbles in everything.

THE CHAMBERED NAUTILUS.

This is the ship of pearl which, poets feign,
Sails the unshadowed main—
The venturous bark that flings
On the sweet summer wind its puurpled wings
In gulfs enchanted, where the Siren sings,
And coral reefs lie bare.
Where the cold sea-maids rise to sun their streaming hair.

Its webs of living gauze no more unfurl;
Wrecked is the ship of pearl!
And every chambered cell,
Where its dim, dreaming life was wont to dwell,
As the frail tenant shaped his growing shell,
Before thee lies revealed—
Its irised ceiling rent, its sunless crypt unsealed!

Year after year beheld the silent toil
That spread his lustrous coil;
Still, as the spiral grew,
He left the past year's dwelling for the new,
Stole with soft step its shining archway through,
Built up its idle door,
Stretched in his last-found home, and knew the old no more.

Thanks for the heavenly message brought by thee,
Child of the wandering sea,
Cast from her lap forlorn!
From thy dead lips a clearer note is born
Than ever Triton blew from wreathed horn!
While on mine ear it rings,
Through the deep caves of thought I hear a voice that sings:

Build thee more stately mansions, O my soul,
As the swift seasons roll!
Leave thy low-vaulted past!
Let each new temple, nobler than the last,
Shut thee from heaven with a dome more vast,
Till thou at length are free,
Leaving thine outgrown shell by life's unresting sea!

—Oliver Wendell Holmes.

AN ARMY LASSIE'S TRIUMPH.

A slender girl came down Santa Barbara's main thoroughfare at night and entered Squibb's saloon. She wore the dark dress, the picturesque hat of the Salvation Army. Before the big bar were a dozen little tables surrounded by the convivial. On a gaudy stage in the corner a woman in pink sang a song, accompanied by a piano, which a haggard-faced man was pounding.

Quibb dispensed liquors over the bar. He was a big man with massive red cheeks and beetling brows, under which keen eyes were forever shifting, forever comprehending all that occurred.

The girl paused a moment at the door, her face like a sweet tone in discord. A something timid in her manner appealed to the crowd, a something trustful and sorrowful in her eyes. Only one brow frowned, that of John Quibb.

She moved among the tables. "War Cry?" she asked.

One man bought. A maudlin fellow called after her in silly jest. The music pounded on, deafening; the woman in pink screeched and ogled, and John Quibb's eye comprehended everything. Through a rear door men continually went, and the girl coming there looked into a dark passage. Quibb's eye was scorching her. Turning, she saw his stiff, short hair, his red cheeks, his beetling brows. She grew paler; then walked through the rear door.

She came to a tiny room far back, whose ceiling was low and dirty, whose wall was hung with one old print of Rosa Bonheur's "Horse Fair." Over a battered green table hung a fly-specked incandescent light, and round the dice, filling the room, crowded with gamblers.

"War Cry?" she said, flitting in.

Only the man who shook the dice box seemed to hear. He was a young fellow, Harry Quibb, and he flinched. His voice, as he called out the indications of the dice, was halting. He was handsome, carelessly dressed; a lock of hair falling over his forehead; a fast look on his lips; eyes brown and lovable. Now, as the money went jingling over the cloth and all the players jostled 'round, he heard her voice again, and would not look up. She passed very near him, and her arm touched his, at which she grew pink, looked frightened and turned away quickly. His eyes suddenly flung up, found her looking back, and they gazed at each other. Then young Quibb said: "I'll take one."

She handed the paper to him, and he ashamed, tossed out the dice fiercely while she half ran away. The little room was strange tonight; the little low door was thenceforth a portal to her thoughts.

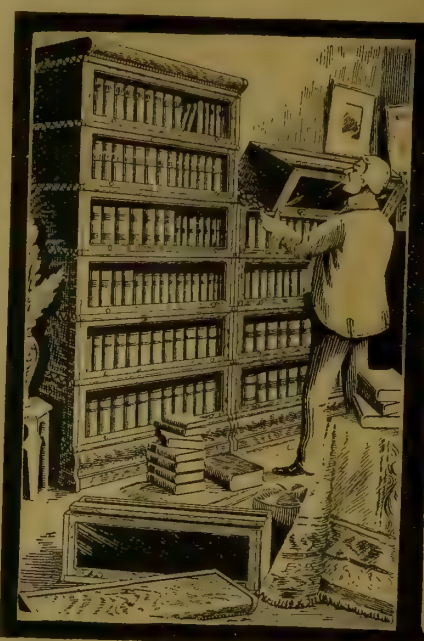
Yet another night she came. Glasses were foaming; a woman in blue sang; and the piano well-nigh split the ear. When she took in the door—a gentle slim thing—John Quibb's eyes flashed around at her. She went quickly toward the little back room, but stood a long time in the passage, fighting it out. She wanted to enter so badly that she feared she ought not. Yet that was her duty. Quivering, she glided in, where a voice, calling out the indications of the dice, was heard.

"'War Cry?'" she said, faltering, looking down.

Now she moved toward Harry Quibb, who thrust forth his arm, as he took the box, in such a manner that she must graze it. Beholding that, she shrank; but the room was tiny; she shut her eyes and sprang by him—and she touched him with her sleeve.

Now, the game was gone from him; now he forgot; and of a sudden they looked at each other. Quick shame came newly born to his cheeks; the dice, live before, died in his hand; for there was pity on her face. She looked frail, like a flower on the slender stem. When she turned and disappeared that was like robbery to him, or the unexpected breakage of a fragile treasure.

"Gentlemen," he said, bewildered at himself, getting up, "the game will have to wait a minute."



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The dice were dropped; the jostling, eager-eyed men crowded in more thickly, waiting, seeing him stride out the little door.

She was flitting yonder through the passage toward the lights of the saloon.

"Wait a minute," he called huskily. She turned in trepidation. "You're too good to be here," he said, blundering, standing a little way off in the gloom.

"Why, no," she answered, "this is the kind of place we hunt for."

"We're not worth it," he next said, convinced and bitter.

She looked up straighter. He never saw a face like hers before. "You're worth my whole life," she said, "if it would do any good.

He was drinking her eyes with parched thirst of his heart. Then he said abruptly: "You're the only thing that could."

Yonder the woman on the stage was singing—the cracked notes of her unpleasing song floated here a little softened. The babel of the saloon came here too on fume-laden drafts of air. He went back again, fast, to his dice. When she emerged in the saloon she met the unendurable eyes of the elder Quibb, which, having pried into the darkness of the passage, seemed now to express rage. Yet all the convivial ones gazed on her with welcome. In his debauchery, man likes to think that he is tender.

Coming out of Quibb's place one other midnight she was like some plaything of the wind, blown along the street from the sea. She was lonely, dreaming, not wanting ever to sleep any more. The saloons and houses became dark, but there was a half-moon. She came to the steps of the Methodist church, and Harry Quibb sat there waiting.

"Don't run away," he pleaded; and her religion, to help the sinful, brought her back.

"What do you do it for?" he said, a little angry as with suffering; "just because they tell you to—or because you want to?"

Tears well d up in her eyes. "If that," she said, wounded, "is all you think of, it"—

"I didn't mean that," cried he; "I know you're good down to the bottom of your heart."

"What else can I say to you," she asked, unsteadily, "to help you. Do you want to stop the dice?"

"I want to stop my whole low-down life; that's what I want," said he; "I want to die."

"I'd help you to stop the dice," she said, too trembling to more than whisper; "I'd do anything; I'd try to show you the way."

He seized her hand and held her; and she sank down on the step of the church. "But, would you love me?" he cried.

All she could say after some time of silence was: "That isn't fair. Oh, you know that isn't fair.

He held her fingers a long while and then she arose and walked on. "No," he said, putting his hand to his head, "that wasn't fair."

The elder Quibb, having slept till 10 o'clock in the morning, came rolling into his place of business at 11, hazy-eyed and brutal. There was but one customer; and yonder by the farthest frosted glass window, staring blankly through the pane through which he could not see, was Quibb's son. The saloonkeeper grunted.

Half an hour having passed, the youth came and leaned over the bar. "Father," he said, "come into the back room."

Already angry, Quibb followed. In the empty hole of the dice, where the prancing horses at the fair looked dingy on the dingier wall, they faced each other, Quibb's eyes eating into the countenance of his son. With desperate determination, the youth said: "I'm going to quit."

Quibb ripped out an oath. What'll you do, you fool?"

"I'll leave Santa Barbara and go to Riverside," said his son. "John Watts offered me a job on his orange ranch."

The saloonkeeper's hand fell on Harry Quibb's shoulder. "No you won't," roared he, like a bull; "you think I don't know what's the matter; its that infernal girl. Half the profits come from this game. Say, if you quit, who would know how to handle the bones like I taught you?"

His anger was now reflected in his son, who cried defiantly, "the game's too dirty for Harry Quibb!"

At this Quibb's eyes came close to the boy, and Quibb's breath blew hot over his face. "So that's your graft. You fool! Now listen. That girl has put this notion in your head. If you don't cut her short off and stick to this business like a man," Quibb raised his fist, "I'll kick her out of this saloon!"

(Continued next week.)

HOW TO GROW.

The father of Alice and Jessie found them one day studying with their heads bent low over their books. They said they were very tired.

"Let me see you walk up and down the veranda," he said.

The little girls wondered what papa meant, and walked slowly past him across the veranda.

"You are not growing right," he said. "I cannot tie you up to a stake, as I did my peach trees, but I must do something. Come out here on the veranda tomorrow morning at 8 o'clock, and tomorrow night at six, and let us see what we can do."

When Alice and Jessie went out on the veranda before school the next morning, they found their father there in the big hickory chair. There were four tin pails standing near him, and he held two books in his hand.

"I want you to fill these pails at the out-door faucet, put these books on your head, and, with a full pail of water in each hand, walk up and down the long path for half an hour without spilling the water or letting the books fall."

The girls laughed, and said that would be fun. They spilled the water very often at first, but they soon learned to walk in the right way, and tiwce a day went through the half-hour walk while their father watched them. They grew to be young ladies who walked like queens.—Selected.

RECIPES.

Chilled Pineapples—Remove the rind and carefully cut out all the eyes, hold the fruit on a fork run into one end, and with another fork pick off all the tender part in as small portions as possible, mere shreds. Sweeten to taste with powdered sugar. Remove the beaters from the freezer can, put in sweetened fruit, surround the can with ice and salt, and let it stand about an hour.

Rice Snowballs—Boil six ounces of rice in one quart of milk with sugar and flavoring to taste. Add more milk if it is needed in the boiling, and when the rice is tender put it into teacups or round moulds to cool. When ready to serve pour out the rice balls, arrange them in a deep glass dish, pour over them one pint of custard, and on the top of each place a small piece of jelly or bright-colored preserved fruit.

Stewed Apples and Custard—Pare and remove the cores from seven good-sized apples, but leave them whole and with the stems if you choose. Boil one-half pound of sugar in three-fourths pint of water for ten minutes, then put in the apples with the rind of half a lemon, and simmer gently until they are tender, but not broken. Dish the apples and reduce the syrup by boiling it quickly for a few minutes, cool a little, and pour it over the fruit. Have ready a half-pint of custard and pour it round the apples when they are quite cool.

Spanish Cream—Dissolve one-half box of gelatine in a little warm water. Beat the yolks of three eggs with two-thirds of cupful of sugar, add it to one and one-half pints of milk, place in a double boiler and cook for a few minutes before putting in the gelatine. Remove from the fire and stir in the beaten whites of four eggs, put into a mould and serve cold with whipped or plain cream.

Blanc Mange—Put into a double boiler one quart of sweet milk and let it reach the boiling point. Beat together four eggs, four tablespoonfuls of corn starch or farina, and one-fourth cupful of milk, and add to the boiling milk. Cook for a few minutes and pour into moulds in cold water. When firm turn out and serve with cream and sugar and a spoonful of preserved ginger, with the syrup, at one side of the dish.

Circumstances: The man of genius creates them, the man of talent uses them, the fool looks at them without seeing them.

HOMELY HINTS.

Salt on the fingers when cleaning fowls, meat or fish, will prevent slipping.

Salt thrown on a coal fire, when broiling steak, will prevent blazing from the dripping fat.

Salt as a gargle will cure soreness of the throat.

Salt in a solution inhaled cures cold in the head.

Salt in the water is the best thing to clean willow ware and matting.

Salt in the oven under baking tins will prevent their scorching on the bottom.

Salt puts out a fire in the chimney.

Salt and vinegar will remove stains from discolored teacups.

Salt and soda are excellent for bee stings and spider bites.

Salt thrown on soot which has fallen on the carpet will prevent stain.

Salt put on ink freshly spilled on the carpet will help in removing the spot.

Salt in whitewash makes it stick.

Salt thrown on a coal fire which is burning low will revive it.

WITH THOSE WHO SUFFER.

We all need personal contact with those who suffer. "The most certain softener of a man's moral skin," writes Dr. Arnold of Rugby, "and sweetener of his blood are, I am sure, domestic intercourse in a happy marriage and intercourse with the poor." Gladstone never appeared nobler than when he read the Bible to an old street sweeper in an attic.—Ex.

NOT IN CALIFORNIA.

The crop is poor,
Can we endure
Our sorry lot?
The fruit is small,
There's none at al.
To put on top.
—J. A. Staples in N. Y. Sun.

He (rather shy)—Won't you—er—give me a token of—er—re—membrance?

She—Do you want something that will always remind you of me?

He—Yes.

She—Well, that being the case, what's the matter with myself?

Moral: If the animal refuses to jump, let down the bars.—Chicago News.

If all the sunshine was poured on us we should be blinded and burned. But we can see it on every little spar of grass and in th water-sparkles and on the hills and the white clouds. That is the way we get it all.—Mrs. A. D. T. Whitney.

Trousers

Appropriate at all seasons of the year is a little talk on trousers. Beginning with our special leader at $2.35—really worth $3.00—a trouser for men who have heavy work, and then our special $3.00 corduroys which are easily worth a dollar more, they run along in easy price-steps up to the fine dress trousers at $5.00, $7.50 and $10. In style, fit and comfort they're unsurpassed.

London Clothing Co.
HARRIS & FRANK
117-125 N. SPRING ST.
Los Angeles, Cal.

My girl just dotes upon ice cream;
Withal she has a heart—
To help me save, she said: "Now Charles,
Do get it by the quart!"

I. T. MARTIN Furniture and Carpet House
531-3-5 S. SPRING ST.
The place to buy good Furniture, Carpets, Mattings and Stoves Cheap. 3 x 7 Window Shades 35c.

ALL GOODS GUARANTEED AS REPRESENTED

Men's Shoes

The only proof of good shoes is the service they give. You get them here—newer in style, better in fit, longer in wear.
MEN'S SHOES—Vici kid or velour calf, lace or congress, welt sole $3.00 pair. Worth $3.50.
MEN'S SHOES—Vici kid, Blucher cut Oxfords, welt sole, stylish last $3.00 pair. Worth $3.50.

Blaney Shoe Co.
456 S. BROADWAY LOS ANGELES

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HOG CATTLE POULTRY NETTING BARB WIRE
WEST COAST WIRE & IRON WORKS
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A day spent on the warm sands at the seashore imparts to the mind, as well as the body, new life, new hope, and to the city weary a day of peaceful rest and quiet. The most delightful and only clean, sandy beaches are those of Long Beach and Terminal Island. Here you can lie in the warm, soothing sands and dream the hours away, or you can dig clams, gather beautiful shells and sea mosses and have a good time playing in the surf of the sea as it rolls shoreward. Agents of the

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will give you full particulars and furnish illustrated leaflets.
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Back East Excursions

BY THE

SANTA FE

JUNE 24TH to 30TH
JULY 15TH and 16TH
AUGUST 25TH and 26TH

Cheap
ROUND TRIP TICKETS

All about them from agent

Santa Fe

Los Angeles Markets.

Los Angeles, July 30.

Ranch eggs are scarce and market firm.

Eastern butter very plentiful, but market not affected in local brands. Prices remain firm.

Potatoes are a light crop and will be in good demand. Sweet potatoes now coming in.

Poultry scarce, same prices prevailing as last week.

The watermelon crop will be lighter than last year, though the acreage is larger. Prices are better and promise to hold during the season.

Butter.

B. of T. Creamery, per -lb roll		60
Coast Creamery	.55	
Cooking per lb	.22	25

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.25	.26
Fresh Eastern	.22	.23
Store, case count	.24	.25

Potatoes.

New Potatoes per cwt	.75	1.00

Beans and Dried Peas.

Limas	3.85	3.95
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.40
Onions, Yellow		.50
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chiles, green, per lb		.05
Peas, green, per lb		.04
Lettuce, per sack		.25
Radishes		.10

Fruits; Fresh.

Apricots, box of 30 lbs	.40	.75
Cantaloupes, per doz	1.00	1.50
Water Melons, per doz	1.00	2.50
Strawberries, box, fancy	.07	.10
Raspberries, per box	.05	.07
Lemons, per box	1.00	2.00
Oranges, Navels, per box	1.25	2.50
Grape Fruit, per box	.75	1.00
Limes, per 100	.90	1.25
Prunes, per box	.40	.60
Peaches, per box	.40	.80
Apples, per box	.50	1.25

Fruits; Dried.

Apricots	.04	.06
Pears	.07	.08
Peaches peeled	07	08
Peaches, fair to good, sks	.03½	05
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.06
London layers, per box	1.00@2.00	
Loose, per box	6¼	7

Poultry.

Spring chickens	.15	.16
Hens, No. 1, per lb	12½	13
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22	.23
Ducks, per lb	.10	12½

Live Stock.

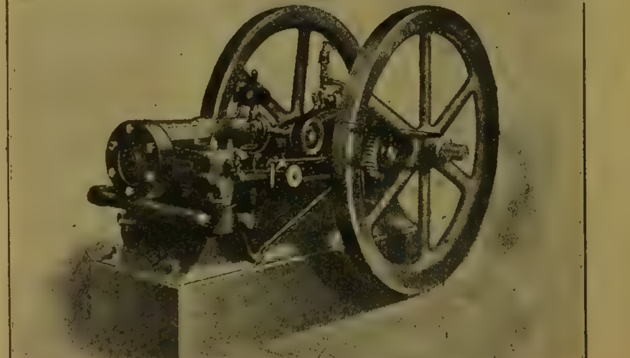
Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	4 00	5 00

Hay and Grain.

Barley hay	8.50	12.00
Alfalfa, large bales	9.00	11.50
Wheat hay	9.00	11.00
Barley, old		1.30
Barley, new crop		.80
Corn, per ctl		1.50
Wheat	1.60	
Oats		1.45
Bran		1.25
Rolled barley		1.05

Irrigation Plants

WE BUILD THEM

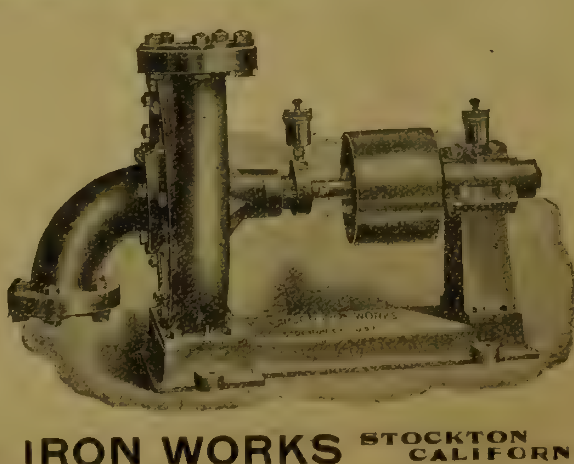


TELL US YOUR REQUIREMENTS

Furnishing...

Engines, Pumps, Pipe, Belting,

and all other material complete for operation.



SAMSON IRON WORKS STOCKTON CALIFORNIA

San Francisco Markets.

Dairy.

San Francisco, July 30.

The large shipments of butter to this city, together with heavy stocks of cold storage has told upon the price. Buyers are cautious and the sellers are trying to hold the price to the old basis, but the best they could do was to keep it from falling off more than a cent. Unless the heavy receipts slacken up further, heavy cuts will be made.

BUTTER—

Creamery extras	.26	@27
Creamery firsts	.24	@25
Creamery seconds	.22	@23
Dairy extras	.22	@23
Dairy firsts	.20	@21
Store	.18	@19
Eastern Creamery	.22	@24

CHEESE—Per lb.:

Cal. Creamery, mild new, extra	.14	@15
Cal. Creamery, mild new, choice	.13½	@14
Young America	.14	@15½
Eastern, New York Cream, Cheddars and flats, old	.18	@19
do new	.14½	@15

Eggs and Poultry.

There was little change in the market for Eggs; fine ranch offerings were firmly held at full figures and close clearances were easily effected. Storage lots are selling in the neighborhood of 25c and are being freely utilized.

EGGS—Per doz.:

Ranch, selected, large	.27	@27½
Ranch, good to choice	.25	@26
Store	.20	@23
Eastern	.18	@21

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $6@8; Fryers, $3.50@4.50; Broilers, large, $3@3.50; small, $2@2.50; Hens, $4@5; Ducks, per doz., old, $3@3.50; young, $3.50@4.50; Turkeys, nominal; Geese, per pair, $1.25@1.50; Goslings, $1.25@1.50; Pigeons, per doz., young, $1.50; do, old, $1.50.

Fruits and Vegetables.

There has been a good demand for the better varieties of Deciduous Fruits and while the general market seemed in better shape, the liberal offerings of inferior quality stock prevented any material improvement in prices. Receipts of Peaches showed a marked shrinkage and enabled sellers to dispose of a large portion of carried-over stock. Fancy lots of the fresh receipts sold off quickly, well up to the top quotation and in a few instances exceded it for extra quality lots. In Pears there was a fair movement in No. 1 lots of Bartletts in bulk at quotations. Large stock of good shape sold freely at the maximum rate, but irregular shaped Fruit and poor quality lots dragged down to the bottom rate. Other Pears met with a moderate jobbing sale at familiar prices. Canners took bulk lots of Plums freely, readily paying the $20 rate for fancy green varieties. Packed descriptions of both Plums and Prunes were not particularly favored and the comparatively light holdings fully balanced requirements. There was an oversupply of Apples and the market was weakened, prices receding rather sharply for all grades. Fontainbleau Grapes dragged slowly at the old rates, but the limited offerings of Seedleess were well cared for at full figures. Some Seedless Sultanas from Hanford in large crates sold as high as $1.75. Figs were fairly steady at quotations. Crab Apples and Nectarines dragged at unaltered rates. The cool weather hampered the demand for Melons and the markt for all descriptions ruled easier, with lower prices prevailing. Quite a few small Watermelons were at hand, which dragged slowly at the minimum rate. Prices for Berries are unchanged and supplies of desirable quality lots were well cleaned up at full figures. The receipts of Logan Berries are plainly evincing the progress of the season, as are those of Longworth Strawberries, and it is difficult to obtain the top rates for even the best of them. In Citrus Fruits conditions were about as previously quoted and values for Tropical offerings were without variance.

DECIDUOUS FRUITS.—Apples—Per box, common to choice, 40@85c; fancy, $1@1.25; Crab Apples, per box, 30@60c.

PEACHES—Per box, 30@50c; basket, 30@50c; bulk, per ton, Freestones, $20@25.

PEARS—Per box, No. 1 Bartlett, 85c@$1; common, 40@75c; bulk, per ton, $25@35; other varieties, 25@50c; basket, 25@40c.

PLUMS—Per box or crate, 25@60c; basket, 15@40c; bulk, per ton, $15@20; according to variety.

PRUNES—Per box or crate, 35@60c, as to variety.

FIGS—Per box, 40c@$1.

APRICOTS—Per box, 40@50c; bulk, per ton, $20@30.

CANTALOUPES—Per crate, $1@2.50.

WATERMELONS—Per 100: $3@20.

NUTMEG MELONS—Per box, 50c@$1.25.

GRAPES—Per box or crate: Seedless, $1@$1.25; Blacks, —; Fontainbleau, 50c@$1.

NECTARINES—Per box or crate: Red, 50@75c; White, 40@65c.

BERRIES—Per chest: Strawberries—Longworth, $5@7; large varieties, $3@5; Blackberries, $2.50@4; Raspberries, $4@7; Logan Berries, $3.50@5; Huckleberries, per lb, 10c; Currants, per chest, $4@5.50.

TROPICAL FRUITS—Bananas, per bunch, Hawaiian, 75c@$1.50; Bluefields, $1@2.50; Pineapples, per doz, $1@2; Dates, Fard, per lb, 7@9c; do, Persian, 6@6½.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, $1.75@3, as to quality; Valencias, $2@3; St. Michaels, $2@3; Seedlings, and Mediterranean Sweets, $1@1.50; Lemons, $1@$3; Grape Fruit, $1@2; Limes, $4@5.

Increased receipts and some accumulation caused further depreciation in values for Tomatoes yesterday and the market ruled topheavy at the decline. Green Peppers were also easier, supplies being more liberal. There was an abundance of Egg Plants, Summer Squash and Cucumbers on, and all these commodities are freely offered. All descriptions of Beans are in good request and sell off readily well up to the top figures. Good corn is scarce and readily brings top rates. Other Summer Vegetables are plentiful and prices lean toward easiness. There is a good lively demand for the beter quality Potatoes and the market rules steady at maintained prices, with available stocks fully up to trade requirements. Onions are as previously quoted and in fair request.

VEGETABLES—Asparagus, per box, $1@$2.50; Tomatoes, per box, small, 25@35c; do, river, large box, 60@85c; Green Peppers, per box, Bell, 75c@$1.25; Chile, 50@75c; Dried Peppers, 6c; String Beans, per lb., 2@3c; Wax, 4@5c; Lima Beans, 6@7c; Green Peas, per lb, 3@4c; Egg Plant, per box, 75c@$1.25; Summer Squash, per box, 25@50c; Cucumbers, per box, 25@50c; Garlic, per lb, 2@3c; Green Corn, per sack, $1.25@1.75; crate $1.25@2; Okra, per box, 65@75c.

ONIONS—New Silver Skins, per ctl., 60@70c.

POTATOES—New Whites, per box, $1.25@$1.75; per sack, 90c@1.50; Early Rose, per ctl., 75c@$1; Garnet Chile, per ctl., $1@1.15; old Potatoes, nominal.

Dried Fruits, Nuts, Etc.

Little interest is shown in Dried Fruits and the business in progress is confined mostly to job-lot transactions. In new Fruits buyers are still indifferent and local brokers are reporting an easier tone to the markets for both Apricots and Prunes, although they are not quoting out any lower prices. Both comb and extracted Honey are now arriving in liberal quantities and prices are less firm and are quoted at a slight decline.

DRIED FRUITS—Prices for carload lots f. o. b. at California common shipping points, in bags, for 1902 crop, are, per lb., as follows:

Apples—Evaporated, 4@6½c; Sun Dried, 3@4c.

Apricots—Royal, choice to fancy, new, 6¾@8c; old, 6½@7c; Moorparks, choice, nominal.

Peaches—4¼@6½c.

Pears—4¾@9½c.

Plums—Pitted, 4½@6c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2¼@2½c, with ½@1c premium for large sizes; new crop, 2¾@3c.

Nectarines—Whites, 4@5½c.

Figs—White, 5½@6c; Black, 5c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown, $1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16 7¾c; 12 oz., 6¼c; bulk, 7½c; choice, 16 oz., 7½c; 12 oz., 6c; bulk, 7¼c.

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—New Comb, per lb., White, 14½@15c; Light Amber, 13½c; Extracted Water White, 6½c; Light Amber, 6c; Dark Amber, nominal.

BEESWAX—Per lb., 32c.

Live Stock.

There has been no change in the live stock market other than hogs are slightly off. There are liberal stocks on hand and the market is lively.

Quotations are:

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@8½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb.: Fat Wethers, No. 1, 4@4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 140 lbs and over, 6@6¼c; weighing under 130 lbs, 5¾@6c; weighing 260 to 350 lbs, 5½@6c; rough heavy, 4½@5c.

Hay and Feed Stuffs.

HAY—Prices on new Hay, per ton: Wheat, $11@14; Wheat and Oat, $10.50@12.50; Oat, $8.50@12.50; Barley, $8.50@11; Clover, $8@10; Alfalfa, $9@10.50; Stock, $8@9.

falfa, $9@10.50; Stock, $8@9.

STRAW—Good to choice, per bale, 45@60c.

FEED CORN MEAL—Choice grades, per ton, $32.50@33.50.

GROUND BARLEY—Per ton, $22.50@23.50.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $24.50@25.50.

RICE MEAL—Mill price, $18 per ton.

CRACKED CORN—Choice quality, per ton, $33@34.

COCOANUT CAKE—Best quality: In lots of 10 tons and upward, $20 per ton; 5 tons, $20.50; small quantities, $21.

BEANS—Prices per ctl.: Large Whites, $3@3.15; small do, $3.15@3.30; Pea, $3.25@3.50; Lima, $3.45@3.60; Red, $2.90@3; Pink, $3@3.10; Bayo, $3.65@3.75; Blackeyes, $2.75@3; Red Kidneys, nominal.

Cereals.

WHEAT—New crop: No. 1 shipping, per ctl. $1.41¼@1.42½; choice, $1.43@1.45; White Milling, good to choice, $1.50@1.60.

BARLEY—New crop: Choice, No. 1 Feed, $1.05@1.08¾; Shipping, $1.12½@1.20; Brewing, No. 1, $1.16¼@1.22½; Chevalier, nominal.

OATS—Feed, good to choice White, $1.22½@$1.32½; White Milling, $1.32½@1.37; Red, $1.15@1.27½; Black, $1.12½@1.20.

RYE—Good to choice, per ctl., $1.10@1.15.

CORN—Good to choice, per ctl.: California, new large Yellow, $1.50@1.55; small do, $1.70@$1.75; White, $1.50@1.55.

Hops.

The prices for new crop are 18 @20c per lb, according to quality.

Eastern Markets.

New York General Market.

CHICAGO, July 29.—Improved weather and the heavy selling of yesterday caused weakness in wheat at the start today, and the early depression was considerably augmented by the severe break in corn prices. September opened with a loss of ¼ to ⅜ to ⅝ at 77½@77¼@77⅛; and there was very little wanted at the decline. Prices held fairly steady during the first hour at the lower range, but later a better demand developed, induced by bullish news from the Northwest, where reports from Manitoba showed greatly reduced crops in that section. On the advance, offerings became extremely scarce, but were well maintained throughout the remainder of the ses-

sion. General rain throughout Iowa, Illinois and Nebraska caused heavy selling in corn at the opening, and extreme weakness prevailed, September falling ⅛ to ¾ at 51¼@54¾. At one time the offerings were overwhelming and the market was badly demoralized, but later a good demand developed on reports from sections of the corn belt to the effect that only light showers had fallen and that much more rain was needed. After selling between 51⅝ and 52¾, September closed ½ higher, at 52¾. Oats acted largely in sympathy with corn, opening weak, but showing a good rally later with local longs who had sold out their lines, replacing them on the break. The close was firm, with September ¼ higher, at 33¾.

Cash quotations were as follows. Flour was steady; No. 2 spring wheat, 80@81; No. 3, 78@79; No. 2 red, 77@78⅞; No. 2 corn, 53; No. 2 yellow, 53; No. 2 oats, 42½; No. 2 white, 38@39½; No. 3 white, 34@35½; No. 2 rye, 51; good feeding barley, 32@40; fair to choice malting, 47@53; No. 1 flax seed, 93; No. 1 northwestern, 97; prime timothy seed, 3.40; mess pork, per bbl., 13.65@13.70; lard, per 100 lbs., 7.85@7.87½; short ribs, sides (loose), 7.75@7.87½; dry salted shoulders (boxed), 7.50@7.62½; short clear sides (boxed), 8.25@8.37½; clover, contract grade, 12.00@12.50.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	24,500	9,300
Wheat, bushels	97,500	7,900
Corn, "	193 200	242,700
Oats, "	459,700	218,800
Rye, "	11,600	700
Barley, "	44,000	7,300

On the Produce Exchange today the butter market was weak; creamery, 14@18½; dairy, 12½@17; eggs, easy at mark, cases included, 11@12; cheese, steady, 10½@11.

Chicago Live Stock.

CHICAGO, July 29.—Cattle—Receipts, 23,-000, including 2000 Texans; market steady to 10c lower; good to prime steers, 5.10@5.50; poor to medium, 3.90@4.50; stockers and feeders, 2.50@4.30; cows, 1.50@4.50; heifers, 2.50@4.70; canners, 1.50@2.75; bulls, 2.25@4.40; calves, 3.00@6.75; Texas fed steers, 3.25@4.50. Hogs—Receipts, today, 23,000; tomorrow, 25,-000; left over, 3700; 5@10c higher; mixed and butchers, 5.20@5.70; good to choice heavy, 5.40@5.55; rough heavy, 4.75@5.35; light, 5.30@5.80; bulk of sales, 5.35@5.55. Sheep—Receipts, 18,000; sheep and lambs steady; good to choice wethers, 3.75@4.00; fair to choice mixed, $3.00@3.50; western sheep, $3.00@4.00; native lambs, $3.25@6.25; western lambs, 5.00@6.25.

California Dried Fruits.

NEW YORK, July 29.—The market for evaporated apples is quiet. Common, 5½; prime, 5¾@6; choice, 6¼@6½; fancy, 6¾@7½. Prunes remain steady at from 3@7 for all grades. Apricots steady; choice, 8@9; fancy, 10@12. Peaches, quiet; choice, 7@7½; fancy, 10@12½.

MARKET NOTES.

Apricot drying is about finished. The market for the dried fruit is very slow. Only about 4c per lb. is offered for old and 6c for new crop. In the northern end of the state about 7c is the ruling price.

Peaches are very dull, and the crop will be short. From 4 to 6c for dried fruit is the ruling price. Canners are paying from $10 to $15 per ton for freesetones and as high as $25 for clings.

Walnuts are still dropping from the trees. Less than half crop will be harvested. The price will not be set till September, when the associations meet. The European crop is reported less than full yield.

Alfalfa hay is scarce and some higher than last year at this time.

The Chicago Packer has established a laboratory under the direction of Prof. Carlisle, who is now making tests on citrus fruit juices, with the especial intent of finding some way to keep orange juice. Once the problem is solved of keeping orange juice fresh and pure and clarified so as to make an attractive article orange growers will have a commercial outlet which will go far to reduce their troubles to a minimum. Californians will realize what it means to that state. A large eastern concern has a standing offer to contract all the high class orange juice offered if it can be brought up to the standard desired.

The indications are for a heavy yield of Lima beans. In Santa Barbara and Ventura counties the acreage is nearly 43,000, in the Santa Monica district about 10,000, and in Orange county there is an acreage of about 6,000 planted.

The crop of honey from the state is now estimated to be not over 150 carloads.

Taken as a whole the eastern fruit crop is way under the average yield. One hundred carloads of fruit a day, or 2,400,000 pounds, are now going East from Sacramento. Up to last Monday the number of cars sent East to all points beyond Ogden was 1717. They contained 41,208,000 pounds of Fruit. Both the railroad officials and the orchardists say that the prospects are favorable for the shipment East this season of 192,000,000 pounds of all sorts of green fruits. This is equivalent to 8,000 carloads.

The Hemet Deciduous Fruit Association has sold its season's crop of dried apricots to Armsby & Co., at a price reported to be 7¼ to 7½ cents. This year was a good one for Hemet growers, the output being 75 tons of the best dried cots yet offered.

CITRUS MARKETS

ORANGE MARKET.

The past week has shown very satisfactory prices for oranges, in anything like good condition, in all sections of the country. Arrivals have not been heavy and a fair demand has kept all markets fairly well cleaned up. Auctions have shown high prices on extra fancy Valencias and Mikes and very fair prices on extra choice stock.

The condition of seeds and sweets generally has been poor and while a few cars of extra good stock have brought good prices in auctions, results have usually been ordinary.

On the other hand, western markets have been very good for anything desirable in these varieties, while demand for Valencias has been limited on account of the higher prices. Shipments last week averaged 38 cars of oranges per day, very heavy for this time of year. It looks as though seedlings and sweets were going to continue to go all summer. The prospects are for ample supplies and a possible weakening of the market, as all kinds of fruit will be plentiful and cheap.

* * *

LEMONS.

These have met with a very serious decline in the market and prospects point to a continuance of a lower range of prices, unless the weather man gives the eastern people another hot wave of sufficient duration to turn their attention to lemonade. The supplies en route are quite heavy, many of which will have to go to further eastern markets as the west will not consume them all, under present conditions. Shipments from California however, will be much lighter for some time to come and when the heavy supply en route is cleaned up the prospects are that the moderate supply will no more than fill western demands.

* * *

SHIPMENTS.

The total shipments of citrus fruits this season from November 1st, to date, are 21,022 carloads, of which numbe· 2349 cars were lemons.

AUCTION SALES.

CLEVELAND, JULY 24.

Market weak on account of other varieties of fruit.

Q. C. Fr. Ex., Leader navels, $1.55; Monogram, $1.15, 25 per cent decay; Leader sweets, $1.45; Monogram, $1.00, 20 per cent decay.

C. C. U., Corona, Excelsior sweets, $1.35; Nasturtium sweets, $1, 20 per cent decay; Excelsior lemons, 5 per cent decay, $2.45.

S. S. Ex., S. S. choice lemons, $2.80; S. S. S. standard lemons, $2.55, 10 per cent decay.

C. C. U., Riverside, Turquoise seeds, 10 per cent decay, $1.40.

BOSTON, JULY 24.

Market advancing.

C. C. U., East Highland, Grape Fruit, seedless, $2.25; common, $1.90.

Riverside Fr. Ex., Red Mountain seeds, 5 per cent decay, $1.90; Red Mountain Mikes, $2.65.

C. C. U., Rialto, Margaret Mikes, $2.75; Angel sweets, $2.70; Excelsior sweets, $2.20; Margurite seeds, $2, 5 per cent decay entire car.

PITTSBURG, JULY 24.

Market is steady.

Riverside Ex., Our Pride Valencias, $3.35; Eagle, $3; Eagle sweets, $2.10, 5 per cent decay.

C. C. U., San Morino, Titus Ranch seeds, 12 per cent decay, $1.90.

S. S. Fr. Ex., S. S. choice navels, $1.15; S. S. choice sweets, $1.35, 3 per cent decay.

CINCINNATI, JULY 24.

Market steady and weather hot.

S. S. Fr. Ex., S. S. S. standard navels, $1.25; S. S. choice sweets, $1.30; S. S. S'standard sweets, $1.20, 35 per cent decay.

CLEVELAND, JULY 27.

S. T. Fr. Ex., Echo Valencias, $2.90; Arroyo Valencias, $2.15, 3 per cent decay.

A. H. Fr. Co., Lemonade lemons, 10 per cent decay, $2.

C. C. U., Riverside, Turquoise seeds, 15 per cent decay, $1.35.

PITTSBURG, JULY 27.

Market is steady.

O. K. Ex., Bear Valencias, $3.75; Quail, $3.15; Owl, $2.80; Blossom lemons, $2.40, 5 per cent decay.

C. C. U., East Highland, Camellia Valencias, $3.60; Blossom, $2.65; 7 per cent decay.

O. K. Fr. Ex., Lemon Blossom lemons, 12 per cent decay, $1.95.

NEW YORK, JULY 27.

Riverside Fr. Ex., La Mesa Valencias, $3.25; Golden Rule, $2.85; Golden, $2.25, 5 per cent decay; Golden Rule lemons, 12 per cent decay, $2.15.

A. C. G., Azusa, Blue Seal Valencias, $5.30; Red Shield Valencias, $3.50; Green Crown, $2.35.

BOSTON, JULY 28.

Riverside Fr. Ex., Red Globe Mikes, $3.15; Standard, $2.85; Red Globe sweets, $1.75, 20 per cent decay; Our Pride Mikes, $4.25; Eagle, $3.60, 10 per cent decay.

NEW YORK, JULY 29.

Arlington Hts., Artesia Valencias, $4.80; Squirrel, $3.75.

C. C. U., Redlands Junction, Monogram sweets, $2.45; Blossom, $2.35, 7 per cent decay; La Belle Valencias, $2.20, 10 per cent decay; Le Belle sweets, $3.05, 5 per cent decay.

Tulare Co., orchard run Valencias, 3.30; C. C. U., Riverside, Daisy Vanlencias, $3.10. Tropical Queen, $2.75, 3 per cent decay.

BOSTON, JULY 29.

Market steady.

Indian Hill Mikes, $3.75; Volunteer, $3.35; Foothill, $3.25.

C. C. U., Lindsay, Missletoe Valencias, $3.10.

PITTSBURG, JULY 29.

Market steady.

Tulare Co. Ex., State Valencias, $3.25; Capitol, $3.05.

Ventura Co. Fr. Ex., Cupid Valencias, $3.55; Cycle, $2.90.

O. K. Fr. Ex., Special Quail lemons, 5 per cent decay, $2.50.

CLEVELAND, JULY 29.

A. H. Fr. Co., Palm Tree Valencias, 35 per cent decay, $2.75; Palm Tree lemons, 10 per cent decay, $1.85.

S. S. Fr. Ex., S. S. choice lemons, 7 per cent decay, $2.75; S. S. S. standard lemons, 12 per cent decay, $2.

Shipments, total for season, 21,022 carloads, of which 2363 are lemons. Total to same date last season, 16,067, of which 1422 were lemons.

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Los Angeles, Cal., June 30, 1903.

The following named children have been received in the Boys' and Girls' Aid Society Home since April 1st.

Half orphans: William Higgins, male, aged 11 years, light hair, blue eyes; Harry Higgins, male, aged 10 years, light hair, blue eyes; Rowland Higgins, male, aged 8 years, light hair, blue eyes; Harry Higgins, male, aged 6 years, light hair, blue eyes; Ruby Higgins, female, aged 4 years, light hair, blue eyes; Peppa Bailey, female, aged 3 years, black eyes, dark hair; Roberto Bailey, male, aged 4 years, dark hair, black eyes; Gertrude Chapman, female, aged 6 years, dark hair, black eyes; Chester Garwood, male, aged 9 years, light hair, blue eyes; George Garwood, male, aged 11 years, light hair, blue eyes.

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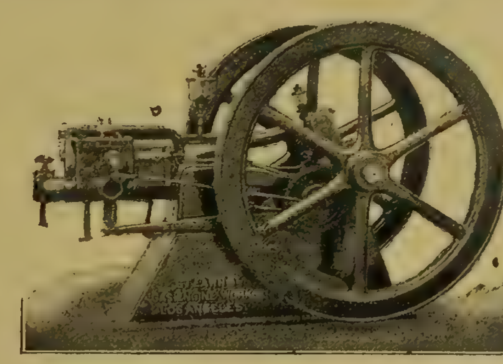

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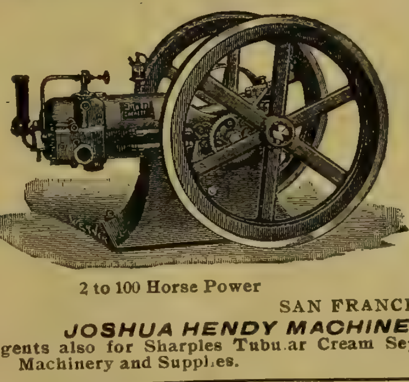

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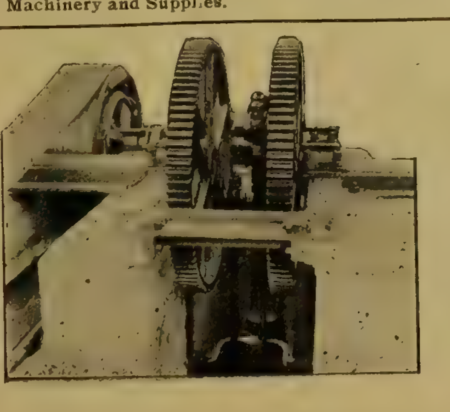

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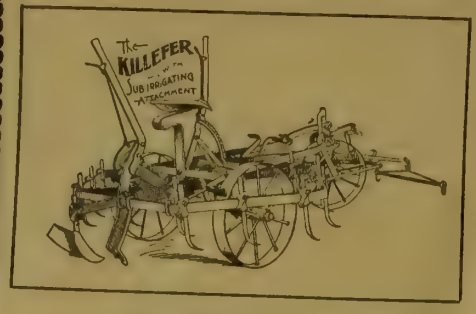

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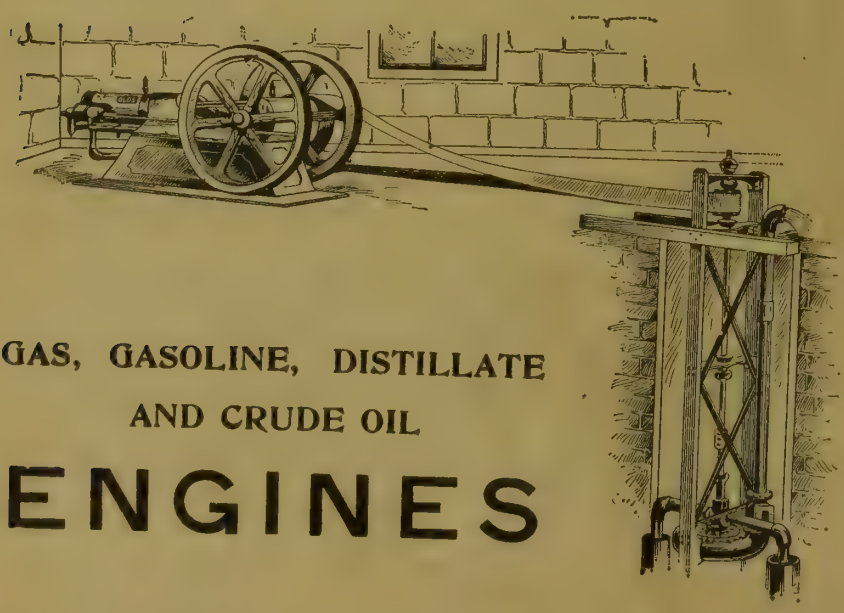

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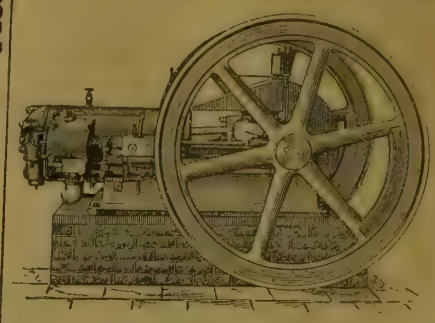

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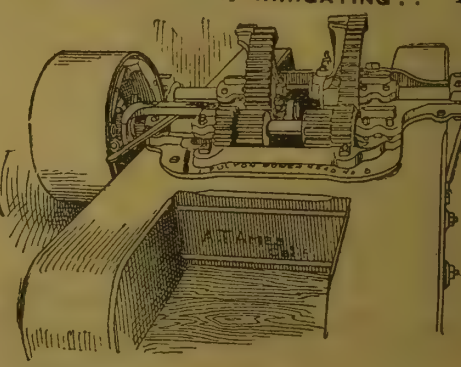

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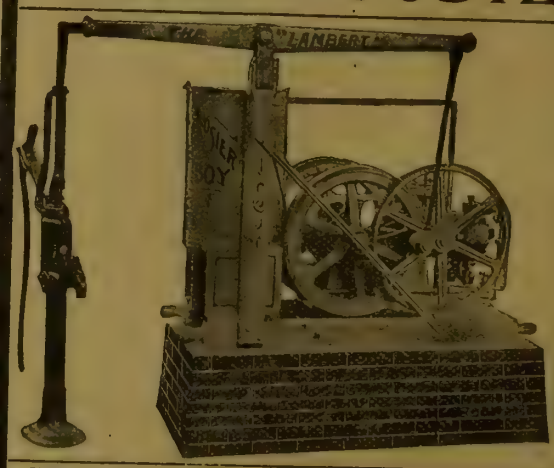

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 6 LOS ANGELES, CAL., FRIDAY, AUGUST 7, 1903 Subscription $1 a Year

Fertilizing the Orchard

BY FRANK L. PALMER, NORTH POMONA

The subject assigned to me is fertilization. Fertilization has an important bearing upon the larger question I want to consider, for by fertilization we increase quantity and by fertilization we may also improve quality. In my opinion, the progressive orange grower will in the future bend his energies to the improvement of quality rather than to the increase of quantity.

It happily occurred to me that, in presenting this subject, it would be interesting and profitable to obtain from prominent growers in each district some account of their experience in fertilizing, and their opinions as to methods now in vogue, and to that end I prepared and sent out a set of questions which many of you have seen. These questions cover a wide range. Some of them were framed in the hope that a concensus of opinion of practical men might prove of value on certain points. This was the opinion of one of our leading orchardists who wrote me about them. But other questions were framed for the purpose of bringing out not how much we know about the subject, but how little we know as to some features of it; and if this paper awakens interest in some of these problems, and stimulates further study and investigation, that is about all it can be expected to accomplish. I have undertaken to tabulate the replies I have received. Many of the growers to whom I have sent the questions begged off, claiming that they have not had sufficient experience in fertilizing to be able to answer any of the questions, and very few have undertaken to answer them all, so it necessarily follows that to some questions I have more replies than to others. To the many persons who exercised the patience and good nature to fill out my blanks, I return my most appreciative thanks.

STABLE MANURE.

My first question was: Have you known of stable manure being used exclusively on the same orange or lemon trees for five consecutive years or more, and what was the result? "B." Did the quality of the fruit deteriorate under this treatment? "C." What was the nature of the soil? Twenty-three persons report on this question, of whom seven say they had continuous good results and sixteen say the fruit finally deteriorated in quality. Ten of the sixteen mention that the fruit became coarse and rough after a few years, and of poor keeping quality. Twelve report an increase in quantity, though five of these say the quality deteriorated. Probably our most enthusiastic advocate of stable manure is A. C. Thomson of Duarte, who says he has used it for eighteen years with satisfactory results, and on all kinds of soil. M. L. Sparks of La Verne has used it for twelve years and decimes to use anything else. And on the England orchard at Redlands stable manures are reported to have been exclusively used for ten years with good results. A large majority, however, find that by the exclusive use of stable manure an inferior orange is produced after a few years, and the replies as to the nature of the soil show that this result takes place sooner on light, sandy soils than on the heavier soils. I think the explanation is not difficult to find. The nitrifying ferments of the decomposing stable manure exercise a powerful influence upon the plant-food already in the soil, and fertilizing results are obtained, for a time, far in excess of what could be expected solely from the plant-food contained in the stable manure, but when the phosphoric acid of the soil becomes exhausted then the poor results that have been noted begin to show themselves. I look upon stable manure as a valuable fertilizer, but I think the only rational way to use it is to apply in with it a liberal amount of bone, or other phosphate, in order to keep up the supply of phosphoric acid. J. R. Moles of Clairmont reports having conducted some field-plot experiments for three years, and he and Mr. Davenport of Pomona and others who experienced poor results from the continued use of stable manure, report an improved condition of the fruit after applying a phosphoric acid fertilizer to their orchards. This practice has also the endorsement of the experiment stations.

COMMERCIAL FERTILIZER.

My second question was: Have you known of the same character of commercial fertilizer (complete fertilizer) being used exclusively on the same orange and lemon trees for five consecutive years, or more, and what was the result? Only fourteen persons report having used the same character of commercial fertilizer for five consecutive years. Of these, eleven say the result was "good crops." Two say "fair crops. "B." Did the quantity increase satisfactorily from year to year? Eight say "yes." Three say "fairly so." One says "yes for three years," and two say "Not regularly." "C." Did the quality deteriorate? Twelve say "No." One says "Yes," and one says "In some seasons yes and then followed improvement again." My impression is that there are very few who would now advocate the exclusive use of commercial fertilizers. The importance of adding humus to the soil is now universally recognized, and this is commonly done by alternating with stable manure every year or two, or by growing green crops for mulch.

IMPROPER FERTILIZER.

Third question: Do you know of any harm being done to oranges or lemons that could be attributed to improper fertilizing? If so, what? Fifteen say "Yes," of whom ten mention coarse and puffy fruit. One grower says "Half the fertilizing is improperly done," and in my opinion his statement is quite conservative. I feel very sure that in many cases harm has been done by over-stimulating the trees with large doses of commercial fertilizers. The fertilizers may have been all right, but the heavy applications that have been recommended by some of the manufacturers have been harmful and have resulted in mischief.

"Do you know of any harm being done to citrus trees that could be attributed to improper fertilizing? If so, what? Four say "No." Six say "Yes," and mention "mottle leaf;" "die-back" and "gum disease" as some of these effects.

"What is the effect on the tree of overfeeding with nitrogenous fertilizers?" The intent of this question was, how are these effects manifested? And it seems to have been so understood by most of the growers who make reply. Five say "die-back;" three say "mottle leaf and weak foliage;" and two say "gum disease."

EXCESS OF NITROGEN.

My next question was: "Do you regard an excessive quantity of dead brush on the inside of the trees as one of the effects of over-feeding with nitrogneous fertilizers?" Ten say "No." Nine say "Yes" but modify the answer in some particular, and undoubtedly most of us are of the opinion that an excessive quantity of dead brush is usually caused by the exclusion of light and air from the inside of the tree. when for any reason the foliage has become too thick.

POTASH.

"What is the effect on citrus trees of large applications of potash?" I

(Continued on Page 93.)

Scenes From the Experimental Farm of Luther Burbank near Sebastopal.

The upper picture gives a partial view between two plum rows containing 10,000 new varieties. Some of these trees, which appear quite small, have as many as 100 to 400 distinct kinds. Probably less than a half dozen will stand the test and prove of superlative value for orchard culture.

CALIFORNIA CULTIVATOR

ESTABLISHED 1889
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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Entered at post office at Los Angeles, Cal., as second class matter.

Friday, August 7, 1903

Circulation this issue 8,300

ETERNAL VIGILANCE.

The San Francisco Chronicle says: "A good many of our northern landowners are undoubtedly intending to 'butt in' to the orange business, and it is probable that some of them will make a good deal of money while their orchards are young. But with the multiplication of trees there is certain to come the multiplication of pests and diseases, nor is it possible to continually take a single crop from the land without soil deterioration, which must be made good by the restoration of humus and the application of expensive fertilizers."

Very true, but if the Chronicle will tell us what business there is in which the insects, pests or fertilizing question, or some other equally exasperating, does not come up (that is, of course, outside of the newspaper business), we will be glad to know what it is; we all want it. The careful, painstaking farmer who keeps his place always clean, always fertilized, and thriving, is the fellow who gets the "rake off," whether it is from his orange grove or a peanut patch.

It was stated at the recent institute held at Long Beach, that one grower had preferred a business in which these difficulties had to be contended with, because it was a most successful weeder of the careless workman.

The beauty spots and show places of California are not in the rich low lands, but almost invariably have been dug out of the rockier and more forbidding soil of the foothill sections. It takes a little opposition on the part of nature to bring out the best there is in the human race.

Those of our northern citrus friends who are going into the business with the idea that it is a kind of a holiday picnic will doubtless run up against the real thing before many years are past, but if they are in sections where they do not have to "farm against the climate" have good soil and abundant water, and above all have grit, there is no reason why they should not succeed in growing oranges.

LAND GRABBERS.

The "Country Gentleman" published in New York takes exception to the land grabbing which seems to have anticipated the national irrigation movement. It says truly:

"The land laws should without doubt be amended to stop this land grabbing before it is too late, if, indeed, it is not already too late. Moreover, some measures should be taken to leave the land grabbers to the enjoyment of their deserts, which they seem so anxious to secure, and spend the public money to be devoted to irrigation on lands still owned by the government or clearly in the possession of small holders in good faith. It is doubtful if there are many such small holders. Homes have not been made on arid land to any considerable extent. Actual settlement on any large scale is only possible after irrigation, and it is safe to assume that most of the private holdings in the regions of prospective irrigation are speculative. Let those lands be left alone."

Notwithstanding this, we trust this most estimable paper may realize the vast importance that this irrigation measure means to the entire country, and not the selfishness of the few who always plan to take advantage of every step for general improvement.

In all civic advancement the squatter gets in and insists on squatting while conditions about him improve, but without his aid.

There probably never was advancement without the fossil getting the benefit. Must we, then, cease to advance?

NATIONAL BEE-KEEPERS' CONVENTION.

In a short interview with George W. Brodbeck, one of a committee planning for the coming National Bee-keepers' Convention, it appears that a fine programme, and a big convention is being planned for the thirty-fourth annual meeting, which will convene at Blanchard's Hall, this city, August 18, 19, 20. Mr. Brodbeck says that this promises to be by far the best attended and the most enthusiastic meeting ever held by this association. Most of the California bee-keepers are preparing to attend, and to bring along their friends. From the east will come some of the most noted bee-keepers and editors of bee-keepers' journals. George W. York, editor of the oldest journal of its kind in the United States, the American Bee Journal, E. R. Root of Medina, Ohio, editor of "Gleanings in Bee Culture;" W. E. Hutchison of Flint, Mich., editor of "Bee-keepers' Journal;" will all be present. N. E. France of Platteville, Wis., who is general manager of the National Association will also be one of the prominent figures.

The chairman of local committees are making preparations for giving the visitors a California welcome. Those who are chairmen of the various committees are: Pres. T. W. Andrews of Corona, of the State Association is chairman executive committee; C. H. Clayton of Los Angeles, chairman of the hotel committee; J. F. McIntyre of Ventura, secretary of the State Association, chairman of the finance committee; J. M. Hambaugh, chairman of the reception committee.

From the programme, we quote one or two numbers as follows: "Honey Exchanges and Co-operation Among Bee-keepers." by Prof. A. J. Cook, Claremont, Cal.

"How to Make Money Producing Extracted Honey," by J. F. McIntyre, Sespe, Cal. Response by E. S. Lovesy, Salt Lake City, Utah.

"The Production and Sale of Chunk Honey," by Homer H. Hyde, Floresville, Texas. Response by C. P. Dadant, Hamilton, Ills.

"The Eradication of Foul Brood," by N. E. France, Platteville, Wis.

"Reminiscences of Bee-keeping and Bee-keepers in the Early Days," by A. I. Root, of Medina, Ohio.

Dr. Wm. Sherman of Fresno, while calling at this office yesterday expressed his faith in the great future of the San Joaquin valley in general and Fresno in particular. The Doctor says the Minnewawa ranch has demand for the large number of registered Holsteins which have made quite a reputation for this fine herd, the grade of which is better than ever.

EDITORIAL NOTES.

The delivery of the thirteen long-time culprits from the state prison at Folsom last week was not to the credit of the management, and should have investigation. Where the blame lies but few seem to know, but certainly such loose management that will allow a general uprising and delivery such as that can only have censure.

* * *

The great benefit which is given to our roadways by application of crude oil is fully established, and hundreds of miles of oiling has been done during this season. Riverside alone is now launching upon a great campaign of road oiling.

* * *

Santa Cruz and Monterey counties are both oiling long stretches. The work is now being placed upon a more intelligent basis. The proper oil has been determined, and the many who apply are using sand as an absorbent, and this has made a vast difference in the results. For instance, it is plainly established that the light Coalinga oil is inferior to the heavier Los Angeles of Kern county oil. The heavy asphaltum oil must be used if the best results are to be obtained.

* * *

The first term of the new California Polytechnic School at San Luis Obispo will open next month. The school is open to any boy or girl fifteen years of age who has completed a grammar school course, or who can pass an examination covering essentially the same ground. Applications to enter the school must be made on forms, which will be mailed to any one requesting. Write to Leroy Anderson, Director, San Luis Obispo, California.

* * *

The recent decision of Judge Conrey, declaring void the county game ordinance of Los Angeles is regretted by the true sportsman and more by the farmer. It is, however, to be hoped that the agitation of the question will bring about a state law which will more perfectly protect song birds, doves and other birds which are beneficial to the producing class of this state.

* * *

The first forest fire of this state has been reported from the Sierra Madre mountains, and it is wise perhaps, at this time to call attention of our readers to the fact that great care should be taken to protect our water sheds. Doubtless every one who reads these lines has sufficient care of the future of this state to observe the proper precautions when in the mountains to prevent any forest fires ever starting. Also to aid in putting out any fires that may have been left by careless campers; but the need for education is so great that every one should bear in mind that the careless youngster should be educated to the terrible consequences of playing with fire in the mountains. The state has taken the matter up, and at various times boys from "the best of families" have been given a very severe lesson. But that never undoes the great damage which may have been caused by thoughtlessness. The law provides for a fine of not exceeding $2000 or imprisonment for two years, or both, if a fire is set maliciously; it also provides for a fine of $1000 or imprisonment for one year or both if a fire results through carelessness. Therefore the youngster who may be good, but is "so thoughtless," would do well to keep in mind that the people of this state are in no temper to temporize such thoughtlessness.

LABEL THE BOXES.

For fear of neglect on the part of some grower and packer we again quote the folowing from the state law passed at the last session:

"All fruit, green or dried, contained in boxes, barrels or packages, which shall hereafter be shipped or offered for shipment in this state by any person, firm or corporation, shall have stamped, branded, stenciled or labeled in a conspicuous place on the outside of every such box, barrel or package in clearly legible letters at least one-quarter of an inch in height, a statement truly and correctly designating the county and immediate vicinity in which such fruit was grown."

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

UNITY AND STRENGTH.

The combination of these qualities is rarely found in agricultural communities in a business way outside of Southern California. But our citrus fruit growers have developed the co-operative idea to such an extent that we had hoped it would ultimately result in a universal organization, in which the strength of the entire industry could be exerted toward overcoming trouble outside the state, such as slow and expensive transportation, improper distribution of fruits and the minor evils that beset the trade as a natural result of competition with other fruits. In this we have hoped for too much, as a few growers will always be found against the ruling order of things, no matter how large, or intelligent, or experienced be the majority of their fellow growers adopting co-operative methods of marketing their fruit. Some one has said that majorities were not always right, and they are not upon matters of morals or mere opinion, where business experience cuts but little figure. So we may expect a few orchardists to stand out independently, for a time at least, and accumulate enough experience to drive them into co-operation with their fellows.

Down in Orange county, where co-operation has not been developed as it has in most other sections, the influence of a few growers is being exerted to place the attitude of the California Fruit Agency in a false light. It cannot be done by straight-out statements and must be done by indirect statement or inference. The argument is made that the agency cannot have the interest in the proper selling of fruit that the owner has. But the readers of the Cultivator know that the complainants have no method to suggest by which the owner of an orange crop can go, himself, to the market and make his sales. He must depend upon some one else and that one must be a commission merchant from very necessity. The argument then, if this is true, assumes the form of captious criticism. The grower has nothing whatever to say about the disposition of his fruit after it reaches the hands of a mere percentage dealer any more than the card player has to say about the "honesty" of the game after he surrenders his percentage to the dealer and lays his money upon the table. If the game is not played according to his ethics he can go to another resort or quit the "business." It is a case of play my way with the commission man or you cannot play at all. Those who place their fruit in the custody of the California Fruit Agency have to deal with men whom they know from long business acquaintance. A large number of these men are selected by the co-operative growers, and the others are men with whom the outside growers have dealt for years. They are engaged solely in selling citrus fruits, delegate to do this either by election, as in the exchange, or by contract with each member of the Citrus Union. It had been thoroughly demonstrated that but half of the growers would affiliate with the Exfruit pitted against the other, disfruit petted against the other, disbefore the few growers who captiously question the utility of the consolidated agency, the so-called independents cannot conscientiously object to the plan now in successful operation.

It has always been easier to tear down than to construct. But a square request to the objectors to outline some system that would be better than the one now in vogue, would display the weakness of the position now occupied by those who refuse to go into the Exchange, or to do business with the Citrus Union. They have nothing to offer but a series of small commission deals, and the fruit growing public have long since sickened at the name of a commission man.

CLIMATE AND CROP REPORT.

From the weekly Bulletin issued by California Section of the Climate and Crop Service, in charge of Alexander G. McAdie we note:

Sacramento Valley—The weather was slightly warmer. The yield of wheat in some sections is better than expected. Barley is a fair crop. The warm weather caused a rapid ripening of deciduous fruits and benefited grapes. Prunes are filling out and will yield a large crop. Grapes are doing well. Citrus fruits are thrifty.

Coast and Bay Sections.—Cool, cloudy and foggy weather continued during the week along the coast. Cool weather has benefited late wheat, which will yield half an average crop. Sugar beets at Pleasanton and Hollister are doing well; the acreage is less than last season's. Corn is looking well. Hops are backward, the yield will probably be below average. Beans are thrifty. Peaches yielding excellent crops. Sweetwater grapes at Cloverdale are nearly ripe.

San Joaquin Valley.—Clear, warm weather during the past week was beneficial to all crops. The fruit crop has developed well, and is now ripening rapidly. Large quantities of pears and early varieties of peaches and prunes are being handled. Heavy shipments of watermelons are being made from Fresno and vicinity. The grape crop is making good progress. Water is very scarce in the ditches. Stock are healthy.

Southern California.—The weather during the week was nearly normal. Alfalfa is below average in some places. Sugar beets at Santa Maria are yielding heavily, with a good percentage of sugar. Beans, corn and potatoes are in good condition. With the exception of apricots, all deciduous fruits will yield good crops. The yield of guavas will be large. Peaches and nectarines are of good quanty. Lemon picking continues. Grapes and oranges are doing well.

Eureka Summary.—Cool weather with fogs retarded grain harvest. Potatoes are improving; yield better than expected. The plum crop is extremely heavy; some orchards in northern section badly affected by rot.

GENERAL NOTES.

The total immigration into Canada for the year ending June 30th, is 124,358.

Another cloud burst has given another soaking to the people of Kansas.

After four days of balloting in the vatican at Rome, Cardinal Sarto, the patriarch of Venice was elected pope.

The United States census shows that the total number of pounds of cheese made in the United States was 298,344,654 pounds per annum.

In the last report of the Secretary of Agriculture, the statement is made that the value of water power from the region of the Appalachian mountains is twenty million dollars.

The union printers employed in the government printing office at Washington are still at their places, notwithstanding the reinstatement of a foreman by the name of Miller, who was discharged at their instigation because of his being a non-union man.

A returned Riverside orange grower says that "the orange will become one of Porto Rico's principal products inside of ten years. Many Americans are going there to plant large acreage for orange groves. Labor and transportation are so cheap that Californians must keep Porto Rico in mind."

The Farmers' National Congress will be held at Niagara Falls on September 22, 1903. The governor of New York wil give the address of welcome, and there will be papers on contagious diseases of farm animals, insect pests, and plant diseases, how can we enlarge our foreign markets, and other features of interest to farmers.

Careful and scientific experiments at Watsonville have developed the fact that if all the poison were collected from the sprayed apples, that it would require eight barrels of apples to secure sufficient poison to kill a person. Unless apple eaters are very hearty as to their appetites, there seems to be but slight danger.

Coast News and Notes

By R. A. Dague, 1045 Regent St., Alameda

Georgia this year produced only about 320 carloads of peaches.

Grape-planting will be largely increased the coming year in Modesto county.

Ten millions will be expended in the arid West in the gigantic irrigation movement.

There were 475 carloads of strawberries shipped from the Pajaro valley up to July 1.

It is now known that there will be a larger acreage planted to celery in Orange county than last year.

The walnut crop of California this year is not so large as was anticipated on account of the Walnut-Bacteriosis.

California now ships about 250,000 boxes of apples a year to Great Britain. Oregon exceeds us in that line.

A large deposit of coal has been discovered in the Peace River country. Some of the seams are nine feet in thickness.

Seven threshing machines are at work in the Santa Maria valley. It is estimated they will turn out 500,000 sacks of grain.

The Texas Horticultural Society has appointed a committee of learned men to come to California to study our methods of raising fruits.

The Alameda county milkmen, following the fashion, have formed an association and fixed the price of milk, which took effect August 1.

The Assessors report for Sonoma county this year shows the excess of beef cattle over last year to be 110. General stock 1261 in excess.

Fruit shippers of Portland charge the Southern Pacific company with discriminating against them in shipments of dried prunes and other fruits.

Last year the cotton weevil nearly ruined the cotton crop in Texas. This year a small green bug put in an appearance and is destroying the weevil.

The watermelon crop of Fresno county is unusually large this year. The growers have formed a co-operative association for marketing the crop.

The California wine manufacturers will hold a state convention at St. Helena August 15th to outline legislation desired for protection to the wine interests.

The Santa Rosa Stock Farm Association has on hand some very fine White Leghorn fowls, the stock of which came from the Pan American Exposition.

The Chinese have been all summer pouring into Mexico at the rate of 10,000 per month. The larger number later on work their way into the United States.

"Cheese-making on the Farm," No. 166 is the title of a little manual prepared by Major Alvord which can be had for the asking of the Secretary of Agriculture.

It is only recently that almond raising has been tried in Butte county. The orchards are young but this year the trees are hanging full of nuts of fine size.

Hops in Central California are looking better than two weeks ago. Reports from England, New York and other points are to the effect that the hop crop is poor.

After the deciduous fruits are harvested in Central and Northern California the farmers institute will be taken up. The campaign will run from about Oct. 1 to April, 1904.

Five thousand four hundred and seventy-six cases of Bartlett and other California pears and 2942 cases of plums were sold in London, England, July 31. They sold from 10s 6d to 14s.

Governor Pardee is taking a lively personal interest in the next State Fair. He insists that it shall be so conducted that it will give the people the best returns on the money expended.

The apple crop of the middle west is reported lighter than that of last year.

The Healdsburg Co-operative Cannery now employs several hundred hands.

Some orchardists have sprayed four different times for the codling moth at Watsonville.

The "Pajaronian" says that from a 105-acre orchard at Watsonville, there will be marketed this season 30,000 boxes of apples.

The directors of the California Raisin Growers' Association are making a vigorous canvass to secure contracts for the coming crop. The growers are slow in contracting and there is considerable friction.

The California Promotion Committee has issued a 200-page volume for distribution, giving a fine description of California. It may be obtained by addressing the Committee at No. 25 New Montgomery St., San Francisco.

The beet harvest of Ventura county is not progressing as satisfactorily as was expected. Some farmers held back because they thought by waiting their beets would attain a heavier tonnage and a higher percentage of sugar.

One of the encouraging signs of the times is the formation in Texas and California of companies to manufacture "bricquettes." They are made of crude oil, can be sold for about $1.25 per ton and will take the place of coal.

On August 1st the mills of Central California advanced the wholesale price of flour 20 cents a barrel. The price now is per barrel $4.60@$4.85. They claim that during the year flour will have to be imported into California from the States.

A marvelous machine has been invented by Roy Chaddock of Fowler for the packing or seeded raisins. The machine reduces the crew at a table from 26 to 8 persons. By it the raisins are packed into cartons, the end pieces are turned down and sealed and each carton is weighed.

At the last weekly public sale held at Santa Rosa by the Poultry Association, sixty cases of eggs were offered. The bids ran as high as 25 cents. The committee announced that the eggs should not be sold at that price, and as no higher offer was made the eggs were held over.

The California Promotion Committee has issued a magnificent little booklet, "California Today." It is illustrated with a great number of fine half-tones, and it is a credit to the committee, and will attract attention to California. It may be had by addressing the secretary, 25 New Montgomery street, San Francisco, Cal.

Judge Oster of San Bernardino county has rendered a decision in the case of the city of Ontario against the Chaffey College, in which he decided for the plaintiff the endowment of the college which was made by the Chaffey Brothers, when the college was established at Ontario, may not be used in educational work of the University of Southern California, outside of the city of Ontario.

The National Irrigation Congress is to be held in Ogden, Utah, September 15th to 18th. Then there will be a squabble over the distribution of the ten millions of government money to be expended in irrigation in California and the Rocky Mountain states. The committee having the convention in charge wants a large representation. Fred J. Kiesel, of Ogden, Utah, is chairman of the Executive Committee.

A writer in the Stockton Independent says that the yield of grain in California is not up to expectations. There will be a big shortage of grain but a very large crop of hay. Brewing barley is scarce. In the State of Washington the grain crop is better, though away below the average. In the vicinity of Walla Walla the yield of wheat will be as high as 40 bushels per acre.

Wheat harvesting is nicely under way in Washington.

Santa Rosa recently experienced a $100,000 conflagration.

Mayfield in Santa Clara county has decided to incorporate.

A large grain warehouse is to be constructed at Imperial.

Watsonville has already shipped 175 carloads of strawberries.

The Salt River Valley produces eight millions of watermelons.

A slight earthquake shock was felt in this state on August 3rd.

The agriculturists of Imperial are going down after artesian water.

The Chino Sugar Factory starts its operations tomorrow, August 8, 1903.

The Napa Fruit Cannery canned over one million quart cans of cherries.

The first forest fires of the season is reported from San Gabriel Canyon.

Imperial sends up a cry with many other sections of California for more farm help.

Pomona Cannery is talking of making experiments of a new process for olive picking.

Over 15,000 boxes of pears were bought one day at one dollar per box, at Suisun.

About 2000 acres of celery will be planted in the peat lands of Orange county this year.

Most of the counties of Soutnern California have adopted rigid automobile ordinances.

Clarence A. Shamel, associate editor of the "Orange Judd Farmer" is visiting California.

The Gilroy Advocate says that Geo. Eustice cleared over $500 per acre on apricots this season.

Santa Maria has a monster oil gusher, which is giving a boom to the oil business in that section.

The Glenn county stock raisers are arranging for a mass meeting to be held at Elk Creek in September.

The "Hanford Sentinel" says that a pest of grasshoppers there has been wiped out by thousands of black birds.

The Alameda Sugar Company, at Alvarado, announces that it will contract for beets for 1904 at $5 per ton delivered.

It now looks as if the creditors of Porter Bros. fruit concern will get but little from the assets of the embarrassed firm.

Horticultural Commissioner Rodgers of Santa Cruz county has forbidden the throwing of infected apples upon the highway.

Geo. W. Bird of Watsonville sold the entire fruit from his forty acre orchard at auction to the highest bidder for $3,458.50.

Prunes shipped to France have been reported as arriving in poor condition, and of such quality that the market is being injured.

A great irrigation enterprise is proposed for Salinas Valley. The district will comprise 5613 acres of the most fertile section of that valley.

Antelope Valley, north end of Los Angeles county is developing new lands which are said to be in admirable locality for apple cultivation.

A meeting of the prune growers of San Jose has been called for August 15th, to discuss prices for the coming season, and if possible establish a price for the season.

The crop of hops of the Pajaro Valley is reported to be very good. For the first time in the history of hop growers, spraying was resorted to, for protection against the hop louse.

About one hundred carloads of fruit are passing Sacramento each day. This means about 2,400,000 pounds of fruit. Up to the last of July about 1800 cars of green fruit had passed Sacramento.

The engineers in charge of the survey for the great irrigation system to reclaim the great Colorado River Valley, say that there seem to be obstacles in the way of its accomplishment, which may cause the work to be suspended.

Conducted by PROF. A. J. COOK, Claremont, Cal.

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

(Continued.)

We have noted that all insects or animals of the class Hexapoda not only have six legs, which gives this last name to the class, but also that they are more cut up, as they have head, thorax and abdomen, each quite distinct when mature, and that both these peculiarities, the one six legs giving the name Hexapoda, the other marked parts of the body giving the name insects, serve easily to distinguish these animals from those of the other three classes. Crustacia (water breathers), Myriapoda (many legs), and Arachnida, or spider class. We have studied the wondrous transformations from egg to larva, from larva to pupa, and then the imago or mature form. We have noticed the appendages of the head, the two kinds of eyes, those other very important sense organs, the antennae-sense organs in two senses, as they are delicate tectile or feeling organs, and also scent organs. We noted the curious and complicated mouth organs, typical for biting, where the two sets of jaws work side-wise; and modified for sucking. We also studied the legs and appendages of the thorax. These are used so much that they are greatly modified, as we should expect, and greatly aid us in classifying the great host which make up this by all means largest class of animals.

Internal Organs.—We have already seen that the head is the brain-case, and that the thorax contains within but little more than great muscles which move the legs and wings, except that the meat tube or Oesophagus passes through it, and on the under side is an important part of the nervous system. The most important part of the viscera or internal organs are in the abdomen. There need little more be said of the muscles, except that strong ones in the head move the mouth organs, and much larger ones in the thorax act upon the great legs and wings. The muscles are much like our own, except that they are not each bound in a separate sheathe or fascia, and they must be superlatively strong.

The food tube, or alimentary canal is also much like our own. Just back of the mouth is the pharynx, then the oesophagus, and this may conduct, as in the bees, into a pro-stomach or sort of a crop, the honey stomach of the honey bee. The true stomach comes next, and is where the main part of the digestion is usually done. The main digestive juices, however, may be secreted by glands, entirely outside the stomach. In the bees these great digestive glands are in the head and thorax. In most insects there are tubes connected with the stomach, usually the hinder end. These are renal, or act as kidneys. The intestines are divided into small and large, and need no further description.

The breathing organs consist of a very extensive ramification of tubes. Two large ones, one on each side of the body, connect through short tubes with the spiracles or breathing mouths which often show very distinctly along the side of the body. These show very plainly in some caterpillars as in the larva of the large tomato sphinx, the so-called tomato worm. The insect then breathes not through its one mouth, but through these many mouths along the side of its body. The two main air tubes branch and rebranch, and so reach to every part of the body. Thus the insect's lungs are everywhere, and so, air is carried everywhere.

The heart of insects is in the back high up. It makes up the entire circulatory apparatus. It receives the blood and impels it to the head, from whence it pushes back, and so bathes all the organs. There are no veins, arteries or capillaries; only the one heart, which serves to keep the blood moving. The blood is white or yellowish-white. We see why it is not red. The function of the red part of the blood of higher animals is to carry the oxygen. As we have seen, in insects oxygen is everywhere in the insect body. As the lungs are everywhere and so the oxygen needs not be carried. In our next we will briefly consider the nervous system, the glands and the reproductive apparatus.

* * *

GRAPE SPHINX.

Mrs. S. J. C., of Long Beach, finds under her grape vines a large, green caterpillar, which has done its best to defoliate the plants. She asks for name and habits.

This is the caterpillar of one of our largest and most handsome moths, Philampelus achemon. The caterpillar is green with oblique lateral lighter bands. A wart or eye-like spot takes the place of the usual caudal horn The moth is brightly colored, and is one of the most beautiful moths. If numerous it would be a pest, but it is too rare to work any appreciable harm. I have taken two or three of the beautiful moths, since I came to California, and this is the first caterpillar I have seen. In case they become numerous, which we are not to expect, then hand-picking would be the cure.

* * *

TOMATO CATERPILLARS.

E. M., Long Beach, has been seriously troubled with a caterpillar eating into his early tomatoes. He says he has lost at least nine-tenths of the crop, up to within a few days. Now the mischief seems at an end. This is Heliothis armiger, the cotton boll worm of the South, also of corn and we may say the tomato caterpillar of California, and many other sections. The moth is one of the noctuids or night-flying moths, though this flies and lays its eggs in the day-time. It is not the usually sober drab, but yellowish in color. I know of no way to fight these except to trap the moths. By close watching and hand-picking we can protect a small patch of garden corn, but this is costly and laborious, and could not reach to the tomatoes. Of course late crops are less affected. I can only suggest the light-trap or lamp-trap, and sweetened water with a little vinegar or stale beer to catch the moths. I have not tried either of these but from the habits of the moths I should expect some success. The traps must be set early when the moths are egg-laying.

California Horticulturally...

John Isaac, Sacramento

A GOOD REPORT.

The official report of the twenty-eighth Fruit Growers Convention, which was held in Los Angeles in May last, is now printed in book form by the Horticultural Commissioner, and is ready for distribution. There were a number of very able papers presented at this convention and some excellent points brought out on them in the debate. These are all compiled in convenient and readable shape in the report which is now ready for distribution and can be had by applying to the Horticultural Commissioner, at Sacramento.

* * *

ACTIVITY IN VINEYARD PLANTING.

There is a regular boom in vine planting in the northern counties, which is increasing in extent with each passing season. During the planting season just passed, there has been a larger acreage put out to vines, principally wine varieties, than ever before in one season, and arrangements are already being made to put out vineyards on a much larger scale than ever before during the coming season. This turning again toward vine planting has, of course, been the natural result of the very good prices and active demand for wine grapes in the past three or four seasons. There are two serious drawbacks to vine planting in this part of the state, and these are the phylloxera, which is now very generally distributed all over the vine sections of the northern counties, and the Anaheim disease, which is steadily increasing its area. The first pest can be circumvented by the use of resistant stock, a very expensive and not altogether satisfactory process, but for the latter no remedy has yet been discovered and its appearance is more dreaded than the phylloxera. In spite of these drawbacks, however, vine planting is going steadily on and will continue so long as the present prices for grapes are maintained.

* * *

PAINTING CUTS IN PRUNING.

It is sometimes necessary in pruning to remove some of the big limbs; when this is done they should be removed as close to the trunk of the tree as possible and the wound covered either with grafting wax or a coat of paint. This is necessary to exclude the air, keep the wound from cracking and to save the tree from ultimate decay. When a large limb is removed, the stump is subject to sun crack and in these cracks moisture will penetrate, especially if the cut is a slanting one, and oftentimes decay sets in and does not stop until the main trunk is involved and the usefulness of the tree is destroyed. It is often the case that a little paint applied to the freshly made cut, would protect it from the weather until it has had time to heal, and the tree be saved. My attention was forcibly called to the necessity for this in an apple orchard in San Mateo county, which had been pruned by a "professional" pruner from Italy a few years ago. He had cut off a number of the large limbs, some of them several inches from the trunk, and in nearly every case rot had set in and penetrated well into the heart of the tree and an orchard that might have been profitable for many years was utterly ruined.

* * *

NORTHERN COUNTIES.

It is gratifying to note the awakening of Northern California. For many years past this section has existed in a happygo-lucky, half-asleep-half-awake condition and, with unlimited resources at her door, has allowed herself to be surpassed by no more favored but more enterprising portions of the state. This was due largely to the fact that this section was almost wholly a one-crop section. Wheat from the earliest days was the one crop. In early times it paid enormously and everybody went into wheat and continued in it year after year, despite the fact that the land was cropped to death, and gradually, instead of being profitable, entailed an annual loss on the grower, who had got used to wheat and couldn't understand anything else. Wheat land was acquired in enormous tracts and gradually the whole country got into a few hands and the holders were land poor. Much of it had to be mortgaged and then got into the hands of the banks, who did not want the land, and these in many cases have subdivided and sold, or it has passed into the hands of men who have subdivided and colonized. This is the work that is now going on in the northern counties. A strong effort is being made for population, chiefly of the agricultural classes, large holdings are being subdivided, irrigation schemes are being inaugurated and diversified farming, made possible with the aid of water, is gradually encroaching on wheat farming. Dairying, stock-raising and fruit growing are increasing in all the northern counties, and this increase will continue with increased ratio for many years to come. There is but one California, but there's lots of that, and everybody in the east wants to come here and he will come when he can afford it. It is pleasant to the writer to note the improvement noticeable in agricultural and horticultural lines which has started in the north in the past few years and which is increasing with every passing season.

"The truth, the whole truth and nothing but the truth"
in time telling means the time as told by the
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Every Elgin Watch is fully guaranteed. All jewelers have Elgin Watches. "Timemakers and Timekeepers," an illustrated history of the watch, sent free upon request to
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FERTILIZING THE ORCHARD

Continued from first page)

have not been able to find any grower who will concede that his trees have been hurt by the use of potash, though I can easily understand how such harm might be done, and I have understood that unfavorable conditions exist in some orchards that have been attributed to that cause. The proper and rational use of potash is, however, coming into favor as evidenced by many replies. One of the most intelligent and observing of all our orchardists writes me: "We have in the past too much neglected its use."

"What is the cause of scaly-bark gum disease?" This question brought out a variety of answers: Nine say they "Don't know;" two say "Nitrogenous fertilizers;' two say "Bruises from cultivating;" two say "excessive watering;" one says "water standing around trunk;" two say "earth baking around trunk;" one says "mal-nutrition;" and two say it is a "bacteria disease." Here is a vivid illustration of one of the needs we growers have of scientific assistance from the government and state. This disease is unquestionably doing an immense amount of damage in our orchards, and is very general, and it is not probable that we shall be able to successfully combat it until we secure the services of a government specialist to ascertain its cause. An experiment station devoted solely to citrus fruits, and located in an orange growing district, would be of incalculable benefit to our industry. What stands in the way of our making a "long pull, a strong pull, and a pull all together" to obtain the establishment of such a station at Riverside?

The next two questions relate to the time of year to apply potash. In the replies all agree that it is best not to apply it during the winter, and nearly all agree that summer and fall are the proper times to apply it.

What effect have you noticed on the fruit from applications of potash? The answers to this are all favorable to the use of potash, in various expressions as follows: "Firmer fruit and less puff;" "Sweet and juicy fruit;" "Improved quality;" "Smoother fruit;" "Good color."

NITROGEN.

What is the best time of year to apply nitrogenous fertilizers? This question was not clearly put? I should have defined the form of the fertilizer. The answers imply the general opinion that animal manures may be applied at any time of year, and that the best time to apply commercial fertilizers is in the spring and summer.

Have you noticed any puffing of the fruit that could properly be attributed to nitrogenous fertilizers applied while the fruit was maturing? Six growers say "Yes." In sections where oranges are apt to puff, this is a question that may be worthy of more study. My own idea is that heavy applications of nitrogen during the winter time is a mistake.

Is there any advantage in applying a complete fertilizer early in the winter time, say December, over an application made in February? Eight say "No." Six say "Yes." I should vote "No" on this.

Have you had better results from applications of complete fertilizers made late in the spring, say in March, than from applications made earlier in the season? Three say "Yes." Nine say "No."

BONE MEAL.

The next three questions relate to the use of bone meal: What results have you had, or observed, from application of bone meal; either treated or untreated with acid? Eight say "Good results;" Two say "Excellent results;" Five say they "Could see no results;" and one says it is "Disappointing and unprofitable." "B." Did it have the effect of producing a large crop? "C." Did it have the effect of producing smoother fruit than previously grown? Seven say "Yes" and six say "No." Could anything illustrate more clearly how far apart we are on the subject of fertilization. We are growing oranges under very different conditions in the different districts; great and important differences exist in soil; in the quality of the water used; in the quantity of water available; in the temperature of the summer months ;and occasionally, (or semi-occasionally) in the temperature of the winter months. So, in a measure, it is true that each of us must study his own conditions and work out his own salvation. But there are underlying principles in this science of fertilizing which are true and applicable in every locality, and these principles should form the basis and foundation for all our practice.

Have you used bone meal, or dissolved bone, in connection with stable manure, and with what results? Six say "Good results;' one says "Poor results;" and one grower says the combination makes an "Ideal fertilizer."

SUPER PHOSPHATES.

Have you known of superphosphate made from phosphate rock to be applied by itself and with what results? Only six answer this question. Three say "No results;" one says "Results uncertain;" and one says "Do not like it." C. F. Streight of Riverside writes me that he is using the raw phosphate rock, untreated with acid and maintains that it is the rational thing to do. He says that where there is sufficient humus in the soil the untreated ground rock is available, and quotes several bulletins of Eastern experiment stations in support of his contention.

The next question asks for report of experience with Thomas phosphate, or slag phosphate. Three say they used some of it unsuccessfully. One says "Results uncertain." One says "In connection with nitrate of soda, results fairly good." One says "Seemingly good in connection with manure and drainings from a dairy corral." One says results "only moderate." Mr. Corwin of Highlands says "Have used twenty pounds per tree in one season. It improved the fruit after an overdose of guano."

GREEN MANURING.

Is the growing of peas as a soil mulch successful in your district? Twelve persons report that it is not satisfactory; the complaint being in some instances that it takes too much water. Fourteen persons report that it is a success, and some are enthusiastic over it. The most pronounced measure of success with peas seems to have been made at Redlands. C. C. Teague of Santa Paula reports very encouraging success with "Fenu-Greek plant," (native of Algeria,) which he says made double the quantity of mulch that peas did.

What variety of peas do you plant, and in what month do you plant them? Nearly all who are using peas say they plant the Canadian field pea, and sow them in Septemb or October.

Are Southern cow peas planted in your district, and do they promise well? Several report that they have been planted this season, but only two express any opinion about them. One says "Can not recommend" and the other "They do not promise any great degree of success." I made three plantings of cow peas, in an experimental way, this season; two small plantings in March and one the 25th of April. The latest planting did much the best, but neither made a satisfactory growth. I have discovered that they should not be planted till the warm weather comes; then if one gives them plenty of water and plenty of cultivation a quick and satisfactory growth can probably be secured. I propose to try them again, for I regard this matter of a soil-mulch as an exceedingly important factor in rational fertilizing.

Since I received the above mentioned reports I have been shown photographs of two patches of cow peas grown by J. F. Humphreys of Riverside which show a growth to a height of three feet in about six weeks. These were planted in June.

COST OF FERTILIZING.

Which is the most costly fertilizing per acre, as practiced in your neighborhood, fertilizing with animal manures or with commercial fertilizers? Thirteen say "Animal manures;" four say" Commercial;" three say "Not much difference." It strikes me that, in many cases that have come under my notice, fertilizing with animal manures was decidedly the most costly. Manure costs, spread in the orchard, three to four cents per cubic foot, depending upon the quality of the manure and the length of haul. I know a number who have used ten feet to the tree, which, at the minimum price of three cents per foot, makes the cost 30 cents per tree; pretty expensive fertilizing.

The same men used in other seasons ten pounds of commercial fertilizer to the tree, at a cost not exceeding 20 cents per tree. In these cases the alternating with stable manure was principally for the purpose of adding humus to the soil, and a coarse quality of manure was used, containing much straw. Five feet of the best quality of corral manure costs as much as ten pounds of the highest priced commercial fertilizer.

SIMPLE VS. COMPLETE.

Do you find it practicable to use the "simples" rather than to purchase complete fertilizers? I have twenty-two replies to this question. Fifteen say "No." One of them writes: "In the absence of any decided or trustworthy advice, one is apt to let the fertilizer men try what they can do." Seven say "Yes," one of whom remarks: "It is the only business like method." I have heard strong arguments on this point, both pro and con. My idea is: Know first what you want. Know secondly what you get. If you can get what you want from the fertilizer manufacturers at a reasonable price, better let them do the mixing for you. Just here the value of our new fertilizer law becomes apparent. It will not be long now before the commercial value of every brand of fertilizer sold in California, based upon its actual plant-food contents, will be published for the benefit of the consumer by the Director of the Experiment Station, Dr. Hilgard.

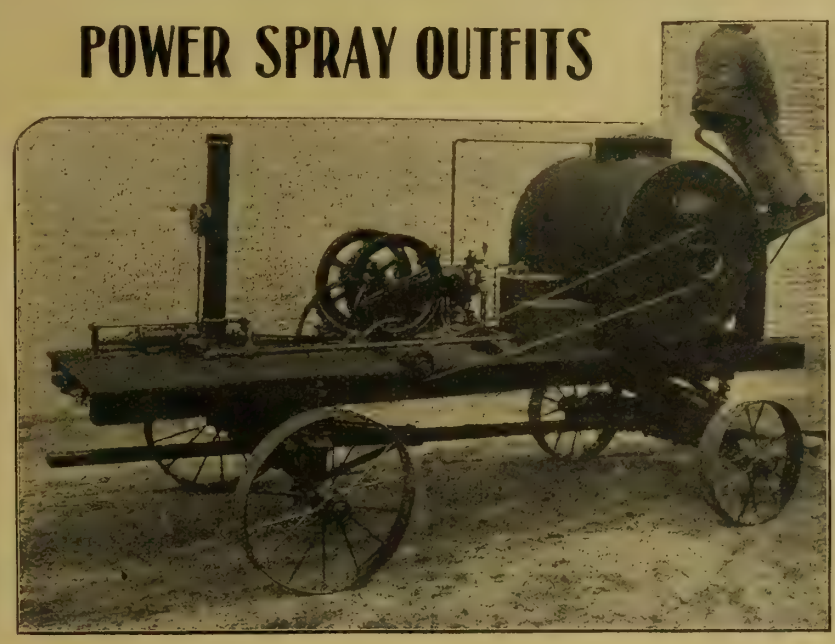
REVERSION.

The four questions relating to the reversion of phosphates may be considered together. One of these was: Is it your opinion that in the use of superphosphates (either alone or in complete fertilizers) there is a very material loss in the soil by reversion to an insoluble condition? Of the twelve who make reply to this question, six say "Yes," and six say "No," one of the latter remarking "No loss whatever."

I understand the matter in this way: We all know that nitrogen, in some forms, is subject to material loss by being leached out of the soil; this, however, is not the case with phosphoric

(Continuedon page 94)

POWER SPRAY OUTFITS



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FERTILIZING THE ORCHARD.

(Continued from first page)

acid. The chemists tell us that seldom is there found more than traces of phosphoric acid in drainage waters, even when heavy applications of soluble phosphoric acid are followed by heavy rains. The reasons why there is no loss in this particular way is because after the soluble phosphoric acid becomes distributed in the soil a process of fixation rapidly takes place, the phosphoric acid uniting with the lime and other alkaline bases present in the soil. This process is what is commonly spoken of as "reversion. If there is plenty of lime in the soil the lime will be the first of these alkaline bases to get the acid, and the reverted phosphoric acid is then just about as valuable as it was before because, in this form, it is still available to the roots of trees.

If, however, there is not much lime in the soil, but a good deal of iron and aluminum, these bases will get the acid, which, particularly in the case of iron, would pretty effectually lock it up, and it is in this respect that possible loss of phosphoric acid takes place. It is also true, and it is an important point, that the phosphoric acid which at first united with the lime may be further acted upon and will probably be less available the longer it remains in the soil, therefore it behooves us to apply our soluble phosphates in small quantities. From every point of view, in fact, the application of fertilizers in large doses is wasteful, and often harmful. Prof. Hilgard writes me that in soils very rich in iron, phosphoric acid may become "locked up" and lost, as it is in the Hawaiian Islands, in some of which 60,000 lbs. per acre of phosphoric acid are utterly useless because combined with iron." Mr. Sardy of the Armour Fertilizer Works tells me that in the cotton states the fertilizers used contain chiefly soluble phosphoric acid, and, no matter how much is used, it seems necessary to make an annual application.

To the query, then, "Does soluble phosphoric acid revert in the soil?" the answer would be yes, it reverts quickly whatever its source, bone, rock or other sources; it probably does not remain in a water-soluble condition for a single week. To the next query, "Does this imply that the quantity not appropriated by the trees in a week after its application is totaly lost?" the answer would be "No." Does it imply a partial loss of this unappropriated quantity? Yes, in some cases perhaps only a very slight loss, in other cases a material loss, depending more upon the character of the soil than upon any other factor, but, naturally, the more soluble the fertilizer the greater loss. Hence it is that the manufacturers of bone fertilizers aim at putting out a product that is not to such a degree water-soluble, as is (necessarily) the superphosphate made from rock.

"But," says a recent West Virginia bulletin, "if the soluble phosphate is quickly converted into an insoluble form, it may well be asked what has been gained by all the trouble and expense of converting the insoluble phosphate into soluble form. The answer is largely a matter of distribution. When the soluble phosphate is applied to the soil, it quickly passes into solution, and as the soil water is never at rest, the phosphate solution soaks through the soil in every direction, bathing every little particle of sand and silt and clay, and gradually being deposited among them as the necessary lime is found. These deposited or precipitated particles are extremely minute, and so expose an immense amount of surface to the action of the soil water. We have seen that the fineness of the particles of ground bones and ground phosphate rock has much to do with their availability, but there is a far greater difference between the size of these precipitated particles and those of the finest ground bone than there is between the latter and the original bones." Then, after speaking of untreated rock and untreated bones, the author says: "The greatest disadvantage of such materials, however, is that when applied to the soil they remain where tehy fall. They may be scratched about more or less by the harrow or the hoe, but even if the field could be shoveled over or run through the most improved disintegrator and mixer the best that could be hoped for would be a comparatively inert particle here and there. The case is altogether different when the soluble phosphate is used, for the deposited particles are not only readily available when needed, but they are so thoroughly incorporated with the soil particles that they are everywhere within easy reach of the plant roots." This, expressed in a simple, or I might say a "soluble," form is my understanding of the somewhat insoluble question of the reversion of phosphates; freed and liberated from all the "bi-calcic," "tri-basic," and tetra-calcic" combinations into which the subject, as well as the stuff, is often converted.

EXPERIMENTS IN PROGRESS.

There only remain on my list of questions those suggesting that it is our privilege to look to our State Experiment Station for such enlightenment and such advice as we need on the subject of fertilization. My question suggesting that if soil experiments are needed they might be carried on at the Southern California Station has been somewhat misunderstood; that was a sub-question referring only to the problem of the reversion of phosphates. The replies indicate a general feeling that we need a station more favorably located for the growth and study of citrus fruits and all the problems incident thereto, with which feeling I heartily agree. I was pleased to learn from Mr. Mills recently that he is contemplating experiments with green manuring crops grown in the summer time, including summer crops grown with commercial fertilizers as "catch-crops," hoping to get better service from commercial fertilizers in that way. He also tells me that a series of field-plot experiments with the different fertilizing elements are being conducted at Redlands at the instance of the Propaganda for Nitrate of Soda, but under the direction of the officers of the Southern California Experiment Station. I feel very certain that the director of our State Agricultural Experiment Station, Dr. Hilgard, and all his associates, have a genuine desire to do all in their power to advance our interests, and that they will co-operate with the growers in every practical way to that end.

This is a rambling paper, but I think it may prove a suggestive one. It is evident that we, as growers, are pursuing all sorts of methods in our fertilizing, but unquestionably there is one thing we should all aim to do and that is to improve the quality of our fruit rather than to increase quantity. In this way each will assuredly benefit himself, and can in an important way benefit the entire orange industry.

FARMERS' INSTITUTE.

The Institute at Long Beach last week increased in interest to the last.

The best part of the institute is the part which comes after it is all over. Not that it is a "good riddance" proposition by any means, but the thoughts which will work out in action as the result of such institute and, better, the organizing and gathering together the information to make it of future use.

The Thursday afternoon program had, besides the university specialists, a fine paper on civic pride by Mrs. L. F. Darling of Riverside, which was an inspiration to all who heard it.

Friday morning Roy K. Bisnop spoke on Bacteria and the Rancher.

In the afternoon Dr. V. A. Moore of Cornell University gave one of the most learned discussions of the institute in Microbe Diseases, and in the evening Dr. Ward of the State University gave a learned discussion of cattle diseases with special reference to Texas fever.

Some of the treats of the week were on Saturday. Prof. C. B. Sumner gave "Farm Organizations," which had so many valuable points that its publication was suggested. It will be one of the after benefits. Mr. Palmer's paper on fertilization appears almost in full on first page of this issue.

Chas. Cassat Davis of Los Angeles spoke on road improvement and the effort of the County Highway Commission of Los Angeles county to secure systematic road work in this county.

The Committee on Legislation reported and the publication of the recommendations was requested that more intelligent action may be taken at the midwinter institute of Clubs at San Diego in December. The resolutions are:

We recommend that the law governing the appointment of Horticultural Commissions be amended so that it may not be used for political purposes but shall secure the appointment of commissioners, inspectors and other officers, on a civil service plan.

We recommend road legislation to be based upon the New Jersey or New York laws. Such changes in constitution as are necessary to secure the best results are also recommended.

We recommend the amendment of the constitution to permit of direct primaries and direct legislation.

We recommend the adoption of such laws as will better control the introduction of new insect pests; also liberal appropriations for enforcement of such laws, and the securing of natural enemies to pests now in the state; also appropriations which will enable the State University to keep more expert investigators in the field.

We recommend the shortening of the open season in which doves may be killed.

We recommend that the next legislature be called upon to continue the appropriation made for carrying on the Farmers' Institutes by the State University.

We recommend the passage of a state law whereby the road tax for main road purposes shall be equally borne by the cities. At the present time the cities of the state contribute nothing toward the maintenance or construction of any of the roads, although they are fed by the main roads leading from them.

We recommend the adoption by the postal department of the Parcels Post.

We recommend the enactment of a National Pure Food Law.

We recommend a National Quarantine Law, which will give power to shut out fruits and plants from countries where plant pests or diseases may exist.

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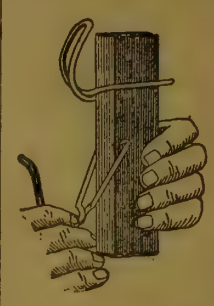

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1903 CATALOG

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BY ERNEST BRAUNTON, GLENDALE CAL.

THE BEST ROSES.

The question of what roses to plant in any particular locality is one that can be settled satisfactorily only by experiment; but a list of those which do the best in Southern California under most conditions of soil and climate is not hard to determine. Such a list would be valueless, however, if no note was taken of the colors, so that we aim to give below a selection of sorts that will most nearly satisfy the wants of all. Descriptions of colors and other valuable points are included. All roses vary somewhat according to soil and care.

Bush Roses.—Marie Van Houtte: Pale yellow, tips of petals and outer petals tinged with rose, large and full. Madam Lambard: (the writer's favorite). The best all purpose sort, rich salmon pink. Maman Cochet: Fine pink, sometimes salmon tinged. Papa Gontier: Carmine bud, changing to deep rose, very free bloomer—semi-double. Kaiserin Augusta Victoria: The best white, large and full. Laurette: A delicate blush, in winter often white—will stand more frost than other rose blooms. The Bride: (White Catherine Mermet) Outer petals and tips of balance tinted rose. Catherine Mermet: Flesh color—often pink, vary fragrant. Meteor: Deep crimson, the darkest of this list. Perle des Jardins: Straw color to canary yellow, large and full. Caroline Testout: Clear pink, an exceptional rose, blooms well in hottest weather. Eliza Sauvage: Pale yellow or white with yellow to orange center. Pauline: Deep rose, unusually large—an improved Paul Neyron.

Climbers.—Lamarque: Pure white or (generally) shaded yellow in center Marechal Neil: Deep sulphur yellow, large and full, finely scented, likes partial shade. Climbing Souvenir de Wootton: Magenta red or deep crimson, large and full. Reve d'Or (French for "Dream of Gold") Saffron or fawn color. Climbing K. A. Victoria: Pure white, very fine. Reine Marie Henrietta: Cherry red changing to magenta. Gloire de Dijon: Buff with orange center, sometimes very large and full—likes partial shade.

* * *

FOR WINTER FLOWERS

One of the best winter flowers we have are the freesias and they may be planted any time during August or September; in fact it is best to make two or more plantings a month apart. The bulbs are cheap and grow in any soil with little care. If planted in bed or border a part may be flowered each week merely by controlling the water supply. They should be kept growing for three months after flowering, to make new bulbs, after which dry off gradually.

* * *

PLANTS FOR SOUTH SIDE

"A Reader," Covina, Cal., wishes to know what plants will do well on south side of house in that locality and states that they lost many things planted in the sun.

If "A Reader" wishes further information from this department, his or her name must be signed to the request, not for publication, but as a guarantee of good faith and also because we wish to know all our correspondents. This rule will be strictly adhered to in the future—a rule which all periodicals follow.

The number of plants for growing in the hot sun is almost innumerable, but if in a very hot, dry position, lavender, petunias, poinsettia, plumbago, aloes, agaves—a cactus garden are among the best. The climate at Covina is not a harder one in which to successfully garden than is that of Los Angeles and it is probably a lack of care or water that is the trouble in this case. Of course the season is too far advanced now to successfully start a general line of plants, though those mentioned above will endure present weather. Start early in the new year and you will be more successful.

AN INTERVIEW WITH LUTHER BURBANK.

J. A. W. Gates who is traveling in the interests of the Cultivator, in the rich country along the coast north of San Francisco, had a short interview recently with the "Wizard of Horticulture" Luther Burbank, at his home at Santa Rosa.

Some new productions of this tireless investigator were shown to Mr. Gates, and the interesting talk brought out some points which may be of value to our subscribers. Of course, Mr. Burbank is intensely in love with his calling, and with his plants which he treats as if they were his pets. He kindly showed the Cultivator representative some of his new productions, and gave some notes regarding their worth.

Among these many new fruits and nuts, and the points which Mr. Burbank gave regarding their qualifications, we refer to only a few.

In almonds he has developed a new soft shell which he has named the "Santa Rosa." It blooms late, ripens early, in size it is medium to large, the flesh is very white, and of fine flavor, entirely free from any rancid or bitter taste. This nut requires no bleaching, the hull is medium thick and the nut is classed among the soft shells. It has proved in the northern section of the state a sure bearer, the reason for which is given that the blossoms are self-fertilizing.

Mr. Burbank has made extensive study as to crossing of the California and the eastern black walnut, as a stock on which to bud the soft shell English walnut. He finds this gives the best grafting stock for the English walnut he has ever tried, the strong point being the rapid growth of the bud on this stock.

In chestnuts, he has developed and improved the Japanese chestnut which bears eighteen months from the planting of the seed, and as a general thing the grafts bear the first year, often when the shoot is only eighteen inches in length. This is pronounced by many to be the most remarkable plant that has ever been produced in the nut family, for as a rule the chestnut does not begin to bear to amount to anything until fifteen or eighteen years of age.

A novelty in name and in fact is the Plumcot, which is a cross between a plum and an apricot. In flavor it is unique, has a soft fuzzy skin, and promises to be a favorite in the fruit markets.

Another product which is almost as astonishing as some other products by Mr. Burbank, is the new quince, which may be eaten fresh, similarly to the apple, it cooks tender, within fifteen minutes, it baked and relished like an apple, yet it has a peculiar quince flavor.

Other special features which Mr. Burbank has developed is the Crimson Winter rhubarb, roots from which were sold to the King of England; a new peach, resistant to curl leaf, large size, small pit, good for both canning and drying, firm and of high flavor; a large variety of California wild flowers on which he is now working and improving. Speaking of peaches, we may be interested to know that at this experiment farm there are over 10,000 varieties of peaches and nectarines. On some single trees there are as high as 200 and 300 varieties of buds inserted. There are 100,000 varieties of apples, 6000 quinces, 40,000 different kinds of plums, and many other kinds of fruit which have been hybridized and crossed in all imaginable ways.

This gives a mere hint as to the vast experiments constantly going on with fruits and flowers.

The Shasta daisy is known to probably all in this state, at least by reputation, although some say they have never yet seen this wonderful flower. At any rate all have seen the original daisy, which is from a strong thriving plant, will sometimes reach the size of one and a half inches. The Hybrid or Shasta daisy often reaches the enormous size of five inches in diameter. It produces more flower blossoms for a longer period, and is whiter than the original, scatters no seed, and does not become a weed.

One feature of flower culture of which Mr. Burbank is a specialist, and of which he has the finest collection in the world is the Amaryllis. He has studied the Amaryllis for over nineteen years, and has some of the finest and rarest plants in the world.

The cut on first page gives a faint idea of the experiment farm which has given so many wonders to the world.

Scott's Wax A SURE CURE FOR **Gum Disease**

Made after the formula of Mr. John Scott, late Horticultural Commissioner, by

S. M. WOODBRIDGE, Ph. D., So. Pasadena, Cal.

DIRECTIONS—Cut away the diseased parts of the tree, allow to dry, and apply melted wax with a brush.

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207 Currier Bldg. Los Angeles, Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

THE INFLUENCE OF GREAT BULLS—II.

The sale of the imported Jersey bull Forfarshire at so low an auction price as $1750, though it topped the Linden Grove sale last month, has stirred up quite an outburst of regret among the sale absentees. I understand that Mr. Cooper was commissioned to buy him at a very considerable advance before he was shipped away, by a gentleman who did bid on him up to $1500, but who, not having expected to buy a bull that he supposed would sell anywhere from $4500 to $7000, did not pull himself together quick enough to grasp the full meaning of the opportunity until too late. Since then, I understand that an offer of $5000 has been submitted through Mr. Cooper, but the Filston Farm people say that he should be worth $10,000 to their herd. Mr. Cooper told me after the sale that he had it at his tongue's end to offer $2500 for him back again, but moment after he was struck down, but refrained lest it be construed as done for effect. In commenting on Forfarshire since, Mr. Cooper writes:

"We have said the truth all along about him—that we were selling him a year too quick. It does sound like bold talking to say that two-year-old Jersey heifers milk from 18 to 20 quarts daily, but that was nothing more than the truth, as we had quite a number, both by Forfarshire and Flying Fox, that milked that amount, and Filston Farm's herdsman says that after their journey on the cars some of them milked up to 8 quarts."

Forfarshire met the market practically as a high-pedigreed, untried bull, and illustrates in a measure the class of pedigree I spoke of as desirable in an untried bull under this caption. His dam, Sultanne's Rosette, has produced two other very great bulls (Flying Fox and Ravachol), and still two others (John Bull and Rosette's Golden Lad), evincing much merit as far as tried. Forfarshire's sire, Picton, was not as fashionable as either of the others, but was a grandson of Golden Lad, and had three close crosses of Wolseley, all of which were nicking strains for Rosette, as abundantly proved elsewhere. His first heifers in milk are grand, and if not quite as "pointy" on first calf as the earlier-maturing "Foxes," promise to grow into working dairy types later on that will make even the Ravachols look to their laurels. Those who recall Agatha and Bereford Darkie, by Ravachol, may think this quite a task, but it seems to me that some of the Forfarshires and Foxes are heading for like type.

An imported bull originally selected on high pedigree and said to be fulfilling consequent expectations, is Financial King, at the head of Mr. William Rockefeller's "Rockwood" herd. He was by Caumais Lad, a grandson of Golden Lad, and his dam, Finance, was a sterling winner in the island public tests. She made 21lb. 10 oz. of butter, Jersey weight, in 24 hours, in public competition, and was an enormous milker for a Jersey, having yielded as high as 55 lb. in a day. But her performance was not exceptional in her family, for her dam, Interest, had nine daughters, all very remarkable milkers, and eight of them competed or else were credited with private butter tests of so high a character as to give prestige to the "Interest family" as "the greatest churn family in Jersey." Caumais Lad, who got Financial King, was out of Blue Bell, a not fashionably bred cow, but her blood must have been good, for to the cover of Golden Lad she had Golden Lad's Blue Belle, that topped the females in Mr. Cooper's recent sale at $1725, and to the cover of Nunthorpe had Blue Nun (18.5), sweepstakes cow at the Ohio State Fair, 1891, both of which are now owned at Belmore Farms.

The selection of bulls at Rockwood has always been very carefully considered. The Owl, five times inbred to old Sultanne, and out of Alicante (island champion), the great daughter of Rosette (island champion), preceded Financial King, and died there some two years since. The Owl (a Rosette bull once removed) compared with Ravachol and Forfarshire in the type of his best daughters. In recent years, an occasional daughter of The Owl has been imported. I find only eight that have been sold at auction, but as their average price was $557.50, it will be seen how good they were. A bull, to get a place at Rockwood, must either have been tried very high or else be of the very highest caste in blood. It was M. B. Hakls, the superintendent of this establishment, that forced Mr. Cooper to pay $2250 for Golden Fern's Lad at F. S. Peer's recent importation sale.

Golden Lad (twice inbred to old Sultanne) is so generally conceded to be the most remarkable improver of island stock of his day and generation, and every cross of his blood is valued by such breeders as have studied its influence. It promises to permeate every good thing on the island, as the blood of Old Noble did 40 years ago. The immediate daughters of Golden Lad are now getting scarce, but their magnificence is still vivid in the public eye. I do not believe that any man can name the best daughter of Golden Lad, though time may single out one whose influence in the field of breeding will entitle her to that distinction. There were many daughters of Golden Lad capable of producing great bulls, and one of them had Golden Fern's Lad in evidence of how great their bulls may be. Mr. Cooper reports it as the broadcast consensus of opinion that the island cow Lady Duwish, first over Jersey, a Blythwood and great English winner, was the greatest individual among Golden Lad's daughters. She was bred to her own sire, and in England dropped the bull Beresford Climax. By many people, such close inbreeding is thought hurtful, but for some reason a degree of it works better with cattle than with most other kinds of live-stock. The wonderful cow Jersey Belle of Scituate was by Victor out of one of his own daughters. Golden Lad's blood, by wide experience, has been found to thrive with inbreeding, both near and distributed, when alternated with harmonious out-

BEE SUPPLIES—G. G. Wickson & CO
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from this county or adjoining counties. Must be strictly good individuals.
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THOROUGHBRED POLAND CHINAS
Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons, KINGSBURG, CAL.

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RED POLLED CATTLE
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AMERICAN MERINO SHEEP
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YOUNG HOLSTEIN BULLS
Percheron Brood Mares and Stallions all Registered. Write or call.
Minnewawa Stock Farm, Fresno, Cal.

SLEEPY HOLLOW HERD OF HOLSTEIN CATTLE

We have just received from the Eastern States two carloads of officially tested cows. This has overcrowded us for the present, and to make room we are offering some excellent young cows for sale. They are all in calf to our great herd bulls, and right now are in fine condition to ship. For full particulars write

R. M. HOTALING
Rialto Building San Francisco, Cal.

TO FARMERS, STOCKMEN, DAIRYMEN:

SUGAR BEET PULP
(Kow-Sauer-Kraut)
also MOLASSES
FOR SALE

"KOW-SAUER-KRAUT" 50 cents per ton F. O. B. cars fresh from factory. Conceded to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.

MOLASSES, 75 cents per barrel. Consists almost entirely of carbohydrates, (sugars) cheapest and best food for fattening stock of all kinds. Send for testimonials regarding feeding value of molasses for working horses, fattening cattle and growing pigs and calves.

Los Alamitos Sugar Co., Los Alamitos, Cal.

ANOTHER PROP KNOCKED FROM UNDER HIM

Our "would-be competitor" the DeLaval Separator, in his efforts to counteract the fact that the U. S. Separator is the better skimmer, has tried various schemes to prop up his trembling frame and waning popularity.

He used to try the "Churnability" bluff, but this prop was knocked out long ago; then he howled about flushing the bowl with hot water, but the U. S. corrugated cups quieted him on that; and lately it has been the "cold skimming" dodge, whenever he has run up against the U. S., but alas this also has been knocked from under him, so that now about all the prop he has to lean on is that of "bluff."

That readers may fully realize how little ground there is for advocating cold skimming, we give below a portion of an article that appeared in the June 18th issue of *The Kansas Farmer*, headed "Abuse of a Hand Separator," by Prof. Edw. H. Webster, formerly of the Kansas Agricultural College, and now one of the Government Dairy Inspectors:

"Other abuses were in time met with in the tendency of agents to follow methods that would be condemned anywhere else. One of the principles of separation understood by all creamerymen, is that the warmer the milk the more complete the separation. Yet agents will run cold milk through just to beat the other fellow. This is wrong for various reasons:

"In the first place the milk should be skimmed when warm in order to get the best separation of the cream.

"It should be skimmed when warm in order to give the calves and pigs the warm skimmilk, and

"It should be skimmed fresh from the cow in order that the cream may be quickly cooled to prevent the development of bacteria.

"Everything is against cold skimming and in favor of warm skimming, and the tendency of these contests is to give farmers erroneous ideas in regard to the hand separator."

What further evidence is necessary to convince you that the DeLaval has to depend on other things than its merits to sell its goods?

Remember, the U. S. Holds World's Record

For further particulars as to its merits, write for catalogues.

Vermont Farm Machine Co., Bellows Falls, Vt.

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A COW BELL

CHIMES PROSPERITY WHEN THE DAIRY IS EQUIPPED WITH A

De Laval Separator

Up to date dairymen don't try to get along without a De Laval Dairy Separator.

Write for catalogue telling all about separators, dairy apparatus and supplies, mailed free.

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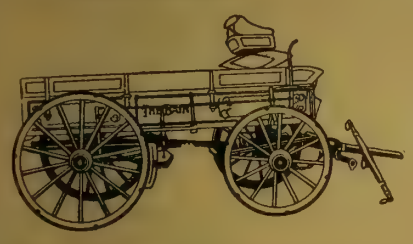

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and trustworthy wagon is what you want, isn't it? If that's what you're looking for, you want a

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They are built for business from the ground up. The material is the best, and it's properly put together by a factory of over 50 years' standing.

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Removal Notice

OF

The Cutter Analytic Laboratory

On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from **Fresno to Berkeley.**

Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is

The Cutter Analytic Laboratory

Rialto Building, San Francisco

OUR SPECIALTY IS

CUTTER'S BLACK LEG VACCINE

If your druggist does not stock our products, order direct form us. We pay all transportation charges

With the exception of three or four venomous varieties of snakes, all reptiles are active friends of the farmer. They are the most voracious insect eaters of all animals. Snakes, toads, frogs, lizards, etc., should be carefully protected. Beneficial snakes should not be killed, simply because their shape and manner of locomotion do not suit us.—Farm & Ranch.

crosses. Beresford Climax was bred to Ravachol's great daughter, Beresford Darkie, and produced my bull Beresford Noir, which I regard as of exceptionally high pedigree. The risk, however, comes in venturing upon blood crosses that are largely experimental. My herd is based on Eurotas blood, modified by Welcome crosses, and I hope that the new cross will develop a happy nick. The nearest parallel indication that I have yet seen is in the old Darlington herd, where Golden Lad's Champion, son of Golden Lad, has been used upon cows kindred to mine with results as promising as could be desired until the heifer shall come in milk.

Golden Lad 2d, an island bull by Orme (son of Golden Lad), out of Golden Lass (the second dam of Golden Lad), has proved a remarkable sire, and seems always to add value to a pedigree. Only five of his get, one bull and four daughters, have been imported to this country and sold at auction, but so good were they that their average price was $796 each. It was a son of this bull, Orlando, that got Dr. C. E. Still's bull Rosette's Golden Lad, the first calf that Rosette dropped in this country. Like her older bulls, he should prove a great sire, but his oldest heifers are not yet due at the pail. While Golden Lad 2d had no extensive opportunity on the island, many are inclined to rate him as great a sire as old Golden Lad. His sire, Orme, son of Golden Lad, had the forceful Oxford Daisy cross from his dam. Orme got the great sire Ravachol, out of Rosette. The breeding of Rosette's Golden Lad, therefore, has precedent in that of Ravachol to indicate that he is capable of becoming a sire of remarkable dairy cows.

Rosette's family (i. e., those descendants which reach her in the direct female line) have cut a prominent figure in auction history. Three of her sons, one of her daughters and two daughters of the latter, making six in all, have sold at auction at an average of $2129.16. Besides this, she produced Alicante, a cow that was champion over the island and a sensational figure in England, and the latter produced The Owl, a bull whose success as a sire I have previously noticed.—Hark Comstock, in the Country Gentleman.

DAIRY NOTES.

Arizona seems to be the center of attraction at the present time in the dairy line. A company with a $50,000 capital is preparing to build a condensed milk plant at Tempe.

The quotations on butter in San Francisco during the first six months of the year were: January, from 30 to 31½ cents per pound, in February from 33½ to 35½; in March, 25½ to 29; in April, 21 to 24; in May, 21 to 23½; in June, 23 to 24½, and in July, 24½ to 25½.

The new "Holstein-Fresian Year Book" is just issued. It contains advanced registry reports of cows and sires of the year 1902, also many half-tone illustrations. It may be had of Frederick L. Houghton, Putney, Vermont.

An announcement is made by the University of California that the Dairy School will open on October 6th, and will continue ten weeks. Prof. Major will be at the head of the school and will be assisted by a corps of practical workers.

The Kings County Dairymen recently formed a co-operative organization and already they are securing the results of their union. They have contracted the milk of nearly 3000 cows at a good price.

A company is to be organized to build a condensed milk factory at Logan, Utah.

James Martella will erect a cheese factory at Dallas, Kings Co.

A movement is on foot to erect a creamery at Nicolaus, Sutter Co.

The DeLaval Dairy Supply Company are installing a refrigerator and ice machine in the Ceres Creamery. The creamery has a capacity of 500 pounds of butter daily.

The Kings County Creamery at Hanford reports a product of 3000 pounds of butter daily.

The sale of Sadie Vale Concordia, the Holstein-Fresian cow, was made recently for the neat sum of $2200. Her son, Paul Dekol, went at the same sale for $2300. This cow is said to be champion producer of butter.

BEE SUPPLIES—G. G. Wickson & Co., 123 N. Main Street. Los Angeles, Cal.

H. Michaels, the proprietor of the large Santa Monica dairy, has just received a car of Holstein cows from Guadaloupe. These were purchased to grade up the dairy and at an average cost of $75 each.

Woodland Creamery reports 22½ cent per pound as the average for all butter sold for the past five years. Also an average of 4½ pounds of butter to every 100 pound of milk.

E. M. Wheeler of Santa Ana has added to his dairy the two fine heifers, Trustee's Duchess, and Vela's Maggie, from the herd of C. W. Leffingwell, Jr., Whittier.

JERSEY FAIR.

Messrs. Platt and Campbell of the committee on holding a fall fair and butterfat test are now getting into line with plans which mean a big meeting for this fall. Various members of the association are reporting cows which they will have in good condition for that meeting. The friendly rivalry which will exist to take off the ribbons of the fair, will give a show which will merit attention from every lover of high bred stock. One feature will be the butter fat test, which will be in the hands of a thoroughly competent and disinterested person, so that not only beauty but utility will be a factor of the exhibit. Fuller particulars will be given next week.

DAIRY AT THE STATE FAIR.

Dairying at the State Fair to be held at Sacramento, August 31 to September 12th, will be given more attention than ever before. There are but few changes in the rules or the prizes, but there will be an increase in the number of entries. On butter alone there are fifteen prizes, ranging from $60 for the first, down to $9, for the fifteenth. There is no distinction between creamery or dairy butter. The butter for the contest must be packed in unmarked packages, save the shipping tag on the outside bearing the exhibitors name. Any style of package may be selected by the exhibitor, provided it contains not less than 20 lbs. It will be held and scored on September 9th and 10th.

The digestive powers of the hog are wonderful. In fact the pig is usually short-lived, hence he has not time to injure his constitution by over-eating, but he gets even by going far to encourage dyspeptic degeneration in the human family. Hence the custom is to feed hogs all they will eat of anything they will eat, and they will come very near eating anything that may be given them.

However much a cows udder may become distended, it is seldom she should be milked before calving.

Prof. Cottrell of the Kansas Experiment Station has tested the efficacy of castor oil in removing warts from cattle, and approves it, and says: "Apply castor oil well rubbed in twice daily for a week, and all will be gone, entirely cured."

Over forty per cent of the cattle in Europe are estimated to be affected with tuberculosis, while in this country the estimate is under 10 per cent, and the percentage is every year decrasing through the work of inspection and eradication being carried on by the government.

All live stock should have salt served to them regularly. The best way to do this, for cattle, horses, sheep and goats, is to have lumps of rock salt conveniently placed where the animals may approach and lick it at will. For hogs, the well known salt, ashes, lime and charcoal mixture is probably the best, and this should be accessible at all times. Animals know when they want salt better than their owners do.

"I want to aks one more question," said little Frank, as he was being put to bed. "Well?" acquiesced the tired mamma. "When holes come in stockings what becomes of thepiece of stocking that was there before the hole came?"—Clipped.

"Browning, dear," said Mrs. Emerson, of Boston, to her husband, "what is a cutaneous pastime?" "A cutaneous pastime, love? I never heard of such a thing." "Well, I heard two men on the street car talking, and one of them spoke of a skin game."—Judge.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.

C. W. LEFFINGWELL, JR., Sec'y., Whittier, Calif.

Ramona Herd

REGISTERED JERSEY CATTLE

Geo. W. Thomas, Riverside, Cal.

FOR SALE

Gold Drop's Gladys, 170236. Sire, Sunmaid's Gold Drop, 34272. Dam, Lotty's Gene, 117516. Dropped Jan 4, 1901. Price $100. W. Jay Cole, Anaheim, Orange Co., Cal.

MARIGOLD'S ORANGE TORMENTOR

Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

G. Y. Lytle

HIGH GRADE, STANDARD BRED JERSEYS

2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad

AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.

GEO. Y. COUTTS Orange, Cal.

LEMONITA HERD

Leffingwell Rancho, Whittier, Cal.

Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.

Terms reasonable. Liberal reductions to those coming from a distance.

No charge for service on cows having authenticated fat or butter records.

Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

E. E. MOORE, Compton, Cal.

Venadera Herd

OF REGISTERED JERSEYS.

Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices

GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT Station B, Los Angeles

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM

SAN BERNARDINO, CAL.

JERSEY BULLS OF ALL AGES

FOR SALE

Melia Ann and Golden Lad blood in lead. Write or come and see.

LEWIS BRADBURY - DUARTE, CALIF.

TWO THOUSAND POUNDS A MINUTE

A. R. Coulson Tells About the New Mixing Machine and Why It Had to Be Built.

The large mixing machine recently completed is something new and it took a long time and lots of expense to make it work. This is the best mixing machine on the Pacific Coast, and it works so well that no doubt that many of the other mills will copy after it.

This electric machine will mix a ton of feed in less than a minute, more evenly and thoroughly than a man with a shovel could mix it in half a day.

Although this great machine cost nearly $1000, it will make a great saving in labor which will make up for the cost of the machine in a few months. Where it cost $1 a ton to mix feed by hand labor this machine will mix it at a cost of 25c a ton.

It was absolutely necessary to have this machine, no matter what it cost, because the trade on balanced rations for poultry and stock was increasing so fast that they could not be made fast enough with six men working by hand labor. Besides, a machine like this one mixes it more thoroughly and satisfactorily than could be accomplished otherwise.

My enterprise is bringing me success. Not only am I successful myself, but those who follow my directions and use my poultry foods are successful too.

This is shown by the ever increasing trade on my balanced rations for poultry.

C. J. McCarthy says he has made more money out of his hens since he has been feeding Coulson's food for laying hens than ever before. He is well satisfied with Coulson's balanced rations for poultry.

D. H. Ward of Cotati has been feeding Coulson's balanced rations for about a year, and has had such splendid success and made his hens pay so well that many of the other poultrymen have gone to him to find out what he feeds to make the hens do so well. Mr. Ward recommends Coulson's balanced ration for poultry.

E. D. Callon of Fallon, who has about 5000 head of poultry, has used a number of tons of Coulson's' poultry foods and recommends it to be all right.

Geo. W. Gaston of Two Rock has 2500 laying hens which are paying him well. Mr. Gaston has fed about 300 sacks of Coulson's balanced rations for poultry and recommends it to be all right.

A. M. Shread, assistant postmaster at Jacksonville, San Joaquin county, writes: After having used Coulson's balanced ration for poultry I wish to say that it is all that it is recommended to be, and that really it is the best food that one can feed, and it is quite a saving on other food stuff, as it is richer and gives better results."

D. F. Colley at Downey, Los Angeles county, when sending for another ton of Coulson's egg food for laying hens, writes: "My hens are doing well now and I think Coulson's food is what makes them lay so, and I do not want to get out of it. The hens like it and it don't take much to fill them up, as it is a richer food. It costs me 50 cents a sack freight so make the price as cheap as possible."

L. J. Howell at Hollister has used over 100 sacks of Coulson's poultry foods and his hens are laying an average of 60 per cent, that is 60 eggs a day for each 100 hens.

Miss K. L. Richardson, an enterprising young lady at Malaga, four miles from Fresno, is making her poultry venture a success. Miss Richardson has ordered over 200 sacks of Coulson's balanced rations for poultry during the last four months.

S. W. Morgan, a breeder of fancy poultry near San Diego, has a supply of Coulson's poultry foods shipped by steamer every three or four weeks.

Many of the fancy breeders in Ventura and Los Angeles county now feed Coulson's balanced rations for poultry.

Mrs. Riley at Biggs, Butte county, orders ten or twelve sacks of Coulson's egg food at a time to be sent by freight.

Many other parties in Placer county, Toulumne county and Yolo county, order a supply to be sent by freight once a month.

Cnopius & Co., Santa Rosa, write: "Please quote us your lowest price on a full carload of Coulson's balanced ration for hens." This firm has already sold over 1000 sacks of Coulson's food.

Extracts from letters:

"We are entirely out of Coulson's egg food and Coulson's chick food and our customers are howling for it. So please see that our order goes forward at once by first freight."

"Enclosed find check for $168.70 to pay for last shipment of Coulson's egg food."

"Please ship at once to Germain Seed Co. by steamer to Los Angeles, 20 bags of Coulson's balanced ration egg food. There is quite a demand for it."

W. T. Park, of West street, one of Petaluma's progressive poultrymen, proved by actual experiment that Coulson's food for hens would make hens lay and grow feathers at the same time.

He bought from a neighbor a flock of 50 hens which were all run down. Their combs were black and they were a hard looking lot. He put them in a pen by themselves and fed them Coulson's egg and feather food and in two weeks they were all growing new feathers and over half of them were laying. Mr. Park uses Coulson's food right along.

There are hundreds of others that are using Coulson's poultry foods right along and are making a success of it.

Coulson's balanced ration for poultry is now on sale at most up-to-date feed stores, or if not, you can order from factory and have it sent by freight.

Zartman & Co. are building a new advertising wagon for Mr. Coulson. It is to cost about $125 and to have a low top and the inside is to be fitted up with shelves and a door on the end so this wagon inside will look like a little store. Charles Mills will have charge of this wagon and will take a four month's trip down in the southern part of the state as far as Mexico. Another wagon similar to this will be built for the northern country.

If you are not using Coulson's balanced ration, why not give it a trial and make more profit out of your poultry. Coulson's food will be as cheap as any other good feed and it will make your poultry give you double the returns on the cost of feed.

Ask your feed dealer for Coulson's food and don't let them sell you something else which they may say is just as good, because they want to sell you something that they can make more money on.

Remember it is Coulson's that you heard so much about, it is Coulson's that gives such good results, and it is Coulson's food that you want.

Following are a few items at random as samples from my daily mail and given here to show what people think of my poultry foods:

Hollister, Cal., July 1, 1903.

A. R. Coulson. Dear Sir: Please ship to me at your earliest convenience one carload, 350 sacks, Coulson's Egg and Feather Food. R. C. GURY.

The Western Union Telegraph Co.

Salinas, July 15, 1903.

A. R. Coulson, Petaluma, Cal.—Ship to W. J. Fair, Salinas, one carload, 350 sacks, Egg and Feather Food and 25 sacks Chick Food.

CHAS. MILES.

L. S. Butler writes from Los Gatos: "I have used half a ton of Coulson's Egg and Feather Food and like it very well. Will soon want more of it."

John Lants of Sacramento writes: "I have used Coulson's and other kinds of egg food, but Coulson's is the best."

Hollister, Cal., July 11, 1903.

To Whom it May Concern:

I, the undersigned, started to feed Coulson's Egg and Feather Food to 250 chickens which were moulting. At the end of ten days I found that my egg production was increased 50 eggs and am fully satisfied with said food.

H. A. Hall.

Hollister, Cal., July 10, 1903.

To whom it may concern:

I, the undersigned, have fed Coulson's Egg and Feather Food to my flock of poultry consisting of 1000 for six months and can cheerfully recommend the feed to any one raising poultry as a cheaper feed and an egg producing feed. Signed, W. K. Goff.

Calistoga, July 11, 1903.

A. R. Coulson—Dear Sir: Enclosed find $7.75 for which please send by freight 5 sacks more of your Egg and Feather Food for moulting hens. So far I am well pleased with results. Yours respectfully,

MRS. E. BANTA.

Santa Rosa, July 13, 1903.

A. R. Coulson—Dear Sir: I write to tell you I have been using your food for about a year and am well pleased with results. I have been keeping hens for over 20 years and never had them do as well as they have since I have used your food. Yours Respectfully, G. J. CUNNINGHAM.

D H. Ward, one of the most successful poultry raisers at Cotati, has been feeding Coulson's Egg and Feather Food for 1 year and has used about 200 sacks of it. He recommends it to all parties raising poultry as it proves to be the most satisfactory and economical of all feeds. Last winter when eggs were bringing 55 cents a dozen Mr. Ward had 500 laying hens that laid an average of nearly 250 egs a day, and were fed on Coulson's Balanced Ration Egg Food.

C. N. Davis says that by feeding his hens Coulson's Egg Food for two weeks the hens have doubled the egg supply and are moulting too.

$500 IN GOLD.

Hollister, Cal., July 9, 1903.

A. R. Coulson—Dear Sir: I send you today $500 in gold by Wells Fargo Express, money collected for Coulson's Egg Food sold at Hollister. Your respectfully, CHAS. S. MILES.

Haywards, July 22, 1903.

A. R. Coulson—Dear Sir: Enclosed find check in payment for last lot of Egg Food. Please ship at once one carload, 350 sacks, Egg and Feather Food; also 1 dozen packages condition powder, 1 dozen cans Coulson's Disinfectant, 1 dozen 50c bottles of Roup Cure.

The Egg Food is selling well here. It gives good satisfaction and we have quite a demand for it. Yours Respectfully,

Kavanagh, Shuey and Gibson.

(By telegraph.) Malaga, Fresno county, July 24, 1903.

A. R. Coulson: Ship to R. Porter, Malaga, 1 car load Egg Food.

This Feed now for sale by over one hundred stores in California. If your dealer doesn't keep it, write for prices and have it sent to you by freight.

A. R. COULSON

772-774 Main St., Petaluma, Cal. Long Distance Telephone, Black 1303

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

HELP NEEDED.

Do our subscribers get any help from these poultry columns? We may answer our own question by saying that this office has many assurances that Mrs. Basley's writing is of great value. It may be made much more so if our subscribers will give from their experience. Tell us something of your work. Let us know how you feed, how you cure diseases, how you kill or prevent vermin, how you raise chicks, make coops, save droppings, clean houses, construct nests, how you succeed with incubators and brooders, or anything that gives information.

Write direct to Mrs. Basley or to this office.

* * *

A BUSINESS OF SOME MAGNITUDE.

The figures of the last census of poultry and eggs in the United States are a most interesting study and show some remarkable things in regard to egg production and prices. The Agricultural Department furnishes the following, based on the figures of the last census report:

"The grand total value of the annual output of eggs is now $145,000,000, while that of poultry aggregates $139,000,000. Iowa leads the states in the production of eggs, the yearly product of that state being 100,000,000 dozen. Ohio comes next with 91,000,000 dozen, Illinois is third with 86,000,000 dozen and Missouri fourth with 85,000,000 dozen. With the exception of Alaska and Hawaii, Montana pays the highest price for eggs, the average price being 20 cents a dozen. They are cheapest in Texas, where the average price last year was 7½ cents a dozen. The average price for the 16,000,000,000 eggs which were marketed in the United States last year was 11.15 cents a dozen."

The North Atlantic Division of the United States leads in the average number of eggs per hen, also in the average value of eggs per chicken. The Southern states averaging less than one-third of the amount of eggs and that third is one-third less in value according to the census. There is a wide range of difference in egg production as well as in the price of the product, and a study of poultry conditions shows conclusively that those states which may be called the "poultry belt" where the most thoroughbreds are kept, where the poultry shows flourish, are the states which lead in the value of the product per hen. The State of Maine, one of the coldest and most unpromising for poultry production, yet leads in the average number of eggs per fowl and the value of eggs produced by each fowl.

The Southern Atlantic states make a very poor showing and the South Central no better, these averaging about one-third the average of eggs and one-half the value per hen. The Western division is next in value to the North Atlantic, whilst our own sunny California, which leads the world in fruit products, takes only the seventh place among the eleven states of the Western division. What do we learn from this? That thoroughbred poultry pays better than any others, that those states noted for Yankee energy and grit qualities, which insure good care and up-to-date methods, are the ones which lead in the value of the product in spite of the climate.

That the scrub chicken of the South, combined with the indifferent care is the cause of the low average egg production. What an argument in favor of thoroughbred fowls, as well as thoroughbred care! What a plea for renewed energy in keeping up to the standard not only in fowls, but in up-to-date methods.

It is noticeable that the states which have the government poultry experiment stations are leaders in profitable poultry keeping, and in this state we are hoping for similar improvement from the government poultry experiment station which has been appointed at Petaluma.

Commenting upon the statistics the census report says: "The population of the United States in 1890 was 62,979,766, and the egg production was 819,722,916 dozens, an average per capita production of thirteen dozens. The number of eggs per capita shown by the present census is seventeen dozens." This shows a remarkable increase (nearly twenty per cent) in average number of dozens of eggs per head of population and shows the constantly increasing demand for eggs.

* * *

WHAT A FARM WOMAN MADE WITH POULTRY LAST YEAR.

The following was taken from a paper read by Mrs. Billings at a farmers' institute:

"I have had some experience with poultry, as I have had the care of a flock of hens for the past twenty years, with good success. We keep about 200 hens. I raise from 100 to 200 chickens every year, hatching and raising them with hens. My way of caring for the chickens is this: I do not feed them anything until they are 24 to 36 hours old, and then feed them bread soaked in water for about a week. After that I take corn meal and johnnycake, and soak that and feed five times a day until they are about five weeks old; then I feed wheat screenings or whole wheat, always giving them plenty of fresh water or sweet milk to drink. In caring for them in that way the loss from sickness is very small. Sometimes the crows or hawks will catch some of them.

"My way of caring for the hens is: In the winter I feed a warm feed every morning of bran with some meat feed mixed with it, either dessicated fish or boiled beef and bone, using seven parts of bran to one of the meat feed, mixed with hot water, and feed while warm. At noon feed corn or wheat, and if they need more feed, corn again at night; always have a box with crushed oyster shells where they can get them when they want them, and give them all the fresh water they want. Two or three times a week I feed some vegetable food, cabbage or apples if we have them, or potato parings. W keep our hens shut in in the winter, unless it is very warm. Don't forget that you must have a warm, dry place for them.

"In the summer they run where they please, with the exception of the garden. They are fed every day of the year all they will eat.

"Here is what we did with our hens last year: January 1, 1901, we had 200 White Leghorn hens and 11 Plymouth Rocks for setters. We sold 1506 dozens of eggs, which brought $298.87. We have sold 17 roosters for $7.30, which makes the sales amount to $306.17. The eggs used in the family is 84 dozen; calling them worth 18 cents a dozen makes them worth $15.12. You see that the eggs sold brought almost twenty cents a dozen only lacking a fraction of a cent. The chickens used for meat are 50 at 30 cents each; this is the lowest price that we have sold any for; it makes them worth $15. January 1, 1902, we have our number of fowls that we had January 1, 1901, and 95 extra pullets worth 50 cents each, which is $47.50; and 24 extra roosters worth 40 cents each, which is $9.60—which, by adding what we have sold and used and the extra fowls, is $393.39. The cost of

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Ask your nearest dealer for them and take no imitations.
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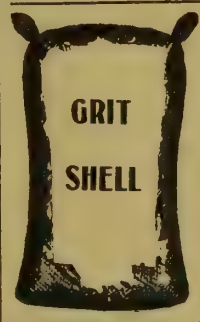

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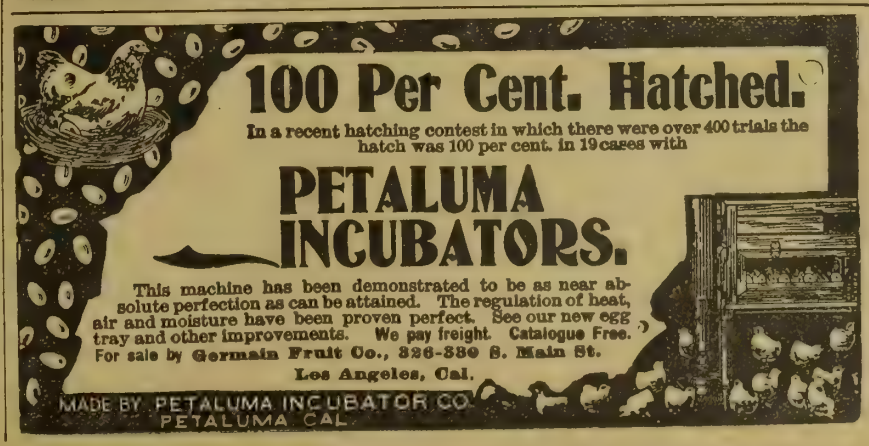

feed for the year ise $159.73—a net profit of $236.66. If they had had more room they would have done better. I have had them do better than this. I shall continue as long as they do as well as they have the past year."—American Poultry Advocate.

* * *

ANSWERS TO CORRESPONDENTS.

Mrs McC. of Wilmington had several hens in her flock, which failed to lay; she killed them and found in each immature eggs ranging in size from a small common marble to the size of a walnut, all solidified, some black. The hens ate well and appeared otherwise perfectly healthy. What is the trouble and is there any remedy?

Ans. Your hens have what Dr. Salmon calls "gangrene of the ovary." This disease is, he says, common with all varieties of poultry. On examination of the ovary after death, the ova are found in different stages of development, but instead of being yellowish-pink in color they are brown or black, easily crushed and the contents broken down into a putrid liquid.

The cause of this trouble is not well understood. It has been attributed to the birds being too fat, thus compressing the ovary, and hindering the evolution of the ova. As it may occur in birds which are not over fat and as is evidently accompanied by the penetration and multiplication of bacteria, it is possibly an infectious disease. There is no cure for it.

Mrs. E. F. of Houston asks for the average prices of eggs, and which I consider the more profitable hens for laying or broiler raising, or is it best to combine the two?

In my opinion, egg farming is more profitable than broiler raising, but for most poultry keepers a combination of the two or combining the several branches, eggs, broilers, and roasters is the best. One may start with eggs for market as the main point. To keep up the stock for egg production, a large number of chicks must annually be raised. Probably half of the chicks will prove to be cockerels; these must be marketed either as broilers, or kept over and caponized as roasters. Or the earliest hatchers may all be sold at very good prices for broilers. I mean hatching by incubators so as to catch the winter trade.

If a person is a good poultry raiser and a rustler in business, it pays best to work along these lines and especially to get up an egg and poultry route among private customers.

The average price of eggs in Los Angeles is 25 cents per dozen.

THE INDIAN RUNNER DUCK.

The Indian runner duck is what might be called an all-around practical duck. The general make-up of these ducks seems to be unlike many others, inasmuch as they have so many points in their favor.

First, the color and plumage are very attractive, being of a fawn color mixed with white, the drakes having a steel blue cap, with a distinct white line running from the eye around the back of the head to the eye opposite, the pure white neck, the fawn-colored breast and back, tapering off with white in wing flights and tail. They are strong and erect, alert in every motion and very hardy.

Second, their laying qualities are such that they have been called and are known today as the Leghorn of the duck family. One breeder claims for one individual duck a record of 192 eggs per year.

It is very fascinating for one to collect eggs from these ducks after once starting to lay, and they generally start in with me in February. It is a common occurrence to bring in just as many eggs as there are ducks.

Third, as a market duck they grow very rapidly, and while they consume much less food in proportion than the Pekin, at 10 weeks old will dress 10 pounds to the pair, and in comparing the pair I find the runner smaller boned, but heavier meated.—American Fancier.

"I want an egg plant," said a young married woman to the grocer. "I'm sorry, but I haven't one in the store just now." "Well, I must get one somewhere, and raise my own eggs, for I am resolved not to pay such high prices for them."—New York Sun.

THE OLD LOVE.

Love calls but once, and he who hears
The music of that heavenly call
Sings but this song through all the years—
The old love is the best of all!

And though our heads be bowed with gray
And that dear love beyond recall,
We sing the good old song for aye—
The old love is the best of all!

And so, sweet love, may you and I
In heaven above this song recall—
Still singing in eternity—
The old love is the best of all!

Ave, though it be a chastening rod,
We kiss the face beneath the pall.
And mute with anguish, bless our God,
The old love is the best of all!

—[Eugene Field.

AN ARMY LASSIE'S TRIUMPH.
(Continued from last week.)

That night when the crowd was thickest in Quibb's place, she came. Her manner was a little timider than usual, and she put in her fair head, looking at the stage, before she entered. Her countenance was radiant.

When she passed among the tables she forgot to say "War Cry" any more: and the eyes of the elder Quibb, which, like an animal's, followed her every movement, drew from her's no answering glance Through the dark passage she now went, only to hover outside the gambling room, her heart beating fast. When she entered at last, Harry Quibb's life once for all did there change. The dice-box fell out of his hand and he arose. "Fellows," he said, oddly, never taking his eyes from hers, "I'm sorry to say that the game will have to stop for tonight."

Turning, they perceived her disappearing through the door. Thither strode young Quibb, after her, and disappeared, too. The culmination of her love for him having come, she was in too great a trembling to halt in the passage, but fled on into the saloon, where she encountered the indignant saloonkeeper. "Get out of this saloon!" raged he, leaning far over the bar, shaking his fist at her and speaking in such thunderous tones that the musician ceased his tumultuous pounding, and all other sounds were hushed. "Get out of this saloon, you sneaking little devil. Quibbs can get along from this night on without the Salvation Army. And if ever again," his fist came close to her face, where she shrank terrified against the wall, "you dare put your foot in here, I'll kick you out!"

And shaking the floor with his heavy tread, he rounded the end of the bar, walked to the spot where she crouched and seized her arm.

At that the silence became uproar, the resentment of the crowd having grown into anger. A dozen men sprang at Quibb and flung him off; a table was overturned; glasses went crashing to the floor, and the saloonkeeper was thrown backward against the bar.

In the subsequent momentary lull Harry Quibb was heard running up the passage. One of those who had seized the saloonkeeper now broke out as outraged spokesman for the crowd. "Shame on you! You shan't touch her. There's not a saloon in town that doesn't welcome her. What harm do they do, answer me that? The boys won't stand for it, Quibb, you beast; they won't stand for it."

The saloonkeeper's son, white, having now entered, stood strong and defiant between the girl and his father, and his eyes flashed. "Don't you dare touch her again," said he, his voice husky.

"So the cub is going to dictate, eh?" rasped Quibb; and you men, what is it to you? Ain't I master of my own place? I tell you now," here he struck the bar with his fist, "I'll keep them meddling women out of my place if I hang for it!"

With that he lunged at the girl again, so that father and son seemed on the point of grappling. But others running between averted the struggle. A light broke on Quibb. He gazed dully about and saw that the faces of all his customers looked dangerous. So he growled and went back behind the bar and glared over it, saying no more.

Now Harry Quibb turned to the girl and took her arm gently. Dazed, she went with him across the room to the door. Then he turned. "Thank you, gentlemen," said he, now bloodless and quiet, and he led her out amid cheers.

An hour later they stood by the steps of the church.

"You must never go there again," he said firmly.

"I must," she said; "at least, even if afterward I ceased. They must know that the army cannot be conquered by fear." She paused, then added: "I will go tomorrow night, I am not afraid."

This overcame him, and he said: "I love you. I want to quit my life. I want to come into yours, and I want you to come into some new one of mine. But I can't join the Army—I'm not made for that. And I don't want you to belong to it, either. I couldn't stand it. If I go half way to you, you can come half way to me. We'll move to Riverside. Come—love me—I have left the saloon and you'll leave this and come to me."

She could not answer, drooping on the steps. He cried again: "Won't you leave this dreadful life—Won't you marry me?"

She stammered that she could not be sure; she said she would see; she said she would pray over it tomorrow with her brothers and sisters of the army.

"But when can I know? I can't wait for you. Your heart's mine already, and you've got to be mine, too."

She could not keep his arms away, or stop his kiss. "I'll see," she murmured, as if the struggle made her sick. "I'll see tomorrow what I ought to do. Tomorrow night, when I come, if I wear this dress you'll know that I can't. But if I wear"—He was holding her as if never to let her go—"a gray one I used to wear before I joined the army, then you will know that I can."

"May I have the license ready in my pocket?" he asked.

"Then what if I wore this dress?" she said.

"At least," he answered, "then I could keep it to remember you by. Oh, let me have the license ready in my pocket."

"Well," she murmured, "you could have it ready."

The breeze was damp on the night of the morrow; even the dust that blew around the door of Quibb's saloon seemed sluggish, as if it knew the rain would come.

The saloon was unusually crowded that night. Now the music began its tumult, and the frayed comedienne came laughing on the stage. At the same moment the door opened and the same fair face that had appeared there every night appeared there again, pale. The maid of the Army walked in and gazed about, with appealing eyes. There fell a hush on the crowd, which looked from her to Quibb and back to her again, ready to fight for her. Only the frayed comedienne sneered; and on the morose countenance of Quibb was an impotent scowl. Then the crowd began to murmur: "She looks different." "It's her dress," said they.

She came across the floor, a slip of a thing, to prove the steadfastness of the Salvation Army. "War Cry?" she said, so low that no one could hear her. "War Cry?" and immediately her wares were nearly all sold.

Now, under the scowl of Quibb, she went into the passage. The keeper's son, fiercely throwing the dice for the last time over the green cloth, heard her soft voice behind him at the door.

"War Cry?"

He had been afraid to sit where he might see her without warning. He would not turn, being afraid still, knowing that everything depended on this sight of her. What if she wore the army gown and the picturesque hat? Again her voice was heard behind him. She could not go any further; she was not trying to sell; she did not see anything but his cheek turned away. Her tones became heart-pleading to him to look at her.

"War Cry?"

Now he could wait no more, but turned. In the midst of the gamblers she stood like a lily that will break. And her dress was gray!

He arose. "Fellows," he said dreamily, "the game is done."

Forgetting to drop the dice-box, he carried it in his hand as he and the girl walked out together. They threaded the passage and walked into the glare of the saloon. Between the eyes of the elder Quibb and the ex-

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pectant faces of the crowd they moved, he holding to her arm. At the door he paused an instant and turned to meet the gaze of the spectators. She, too, turned, smiling a little.

"Gentlemen," said he, "my wife."

The glass door swung open, swung shut, and Harry Quibb and his bride were gone.—Charles Fleming Embree, in Argonaut.

LOOKING FOR FLAWS.

Don't look for flaws as you go on through life.
And even when you find them
It is wise and kind to be somewhat blind
And look for the virtue behind them.
For the cloudiest night has a hint of light
Somewhere in the shadows hiding;
It is better by far to look for a star
Than the spots on the sun abiding.

The current of life run every way
To the bosom of God's great ocean;
Don't set your force 'gainst the river's course,
And think to alter its motion.
Don't waste a curse on the universe—
Don't shrink at the trials before you;
Don't but at the storm with your puny form,
But bend and let it go oe'r you.

The world will never adjust itself
To suit your whims to the letter;
Some things must go wrong your whole life long
And the sooner you know it the better
It is folly to fight with the infinite,
And go under at last in the wrestle.
The wisest man shapes into God's plan
As the water shapes into a vessel.
—[Ella Wheeler Wilcox.

A DAUGHTER'S PLACE AT HOME.

One of the sweetest things a girl can do is to receive friends graciously, particularly at home. In one's own house a cordial manner is peculiarly fitting. Do not stand off in the middle of the room and bow coldly and formally to the friend who has called. Walk over to meet her, give her your hand and say pleasantly that you are very glad to see her again.

A daughter's part is to assist her mother on every social occasion. Apart from and more important even than her manner to a guest who drops in for an hour or a day is the manner of a daughter to her father and mother.

The father returns to his home after a weary day at business. He is tired in body and mind. Coming back, as his latchkey turns in the house door he throws off care. He is joyous at the thought of the dear ones he will meet after hours of absence.

His young daughter, in a pretty gown, with the bloom and freshness only girlhood wears, should be ready to give him the attention he loves—the kiss, the cheery word, to help her mother and the rest in letting her father see how much he is loved at home.

Men give up a great deal for their families—their time, their strength, the knowledge they have gained in life's experiences. They spend everything freely for their home's sake, and the home should pay its debt in much outspoken love.

A WORD TO BOYS.

You are made to be kind, boys—generous, magnanimous. If there is a boy in school who has a club-foot, don't let him know you ever saw it. If there is a poor boy with ragged clothes, don't talk about rags in his hearing. If there is a lame boy, assign him to some part in the game that doesn't require running. If there is a hungry one, give him part of your dinner. If there is a dull one, help him to get his lesson, if there is a bright boy be not envious of him, for if one boy is proud of his talents and another envious of them, there are two great wrongs and no more talent than before. If a larger or stronger boy has injured you, and is sorry for it, forgive him. All the school will show by their countenances how much better it is than to have a great fuss.—Horace Mann.

Dorothy—I do wish we were rich, father.

Father—How rich would you like to be?

Dorothy—Oh, awfully rich, rich enough to snub people and still be called agreeable. — San Francisco Wasp.

SAND.

I observed a locomotive, in the railroad yard, one day;
It was waiting in the roundhouse, where the locomotives stay;
It was panting for the journey, it was coaled and truly manned,
And it had a box the fireman was filling full of sand.

It appears that locomotives cannot always get a grip
On their slender iron ravement, 'cause their wheels are apt to slip;
And, when men reach a slippery spot, their tactics they command,
And to get a grip upon the rail they sprinkle it with sand.

It's about this way with travel along life's slippery track;
If your load is rather heavy and you're always slipping back,
So, if a common locomotive you completely understand,
You'll provide yourself in starting with a good supply of sand.

If your track is steep and hilly and you have a heavy grade,
And if those who've gone before you have the rails quite slippery made,
If you ever reach the summit of the upper tableland,
You'll find you'll have to do it by a liberal use of sand.

If you strike some frigid weather, and discover, to your cost,
That you're liable to slip on a heavy coat of frost,
Then some prompt, decided action will be called into demand,
And you'll slip way to the bottom if you haven't any sand.

You can get to the station that is on life's schedule seen,
If there is a fire beneath the boiler of ambition's strong machine,
And you'll reach a place called Flushtown at a rate of speed that's grand,
If for all the slippery places you've a good supply of sand. —Richmond Register.

IN THE LOWER KINGDOM.

No bird can fly backward without turning. The dragon fly, however, can accomplish this feat and outstrip any swallow.

Oysters, after they have been brought away from the sea, know by instinct the exact hour when the tide is rising and approaching their beds and so, of their own accord, open their shells to receive their food from the sea, as if they were still at home.

The tongues of the cat family are covered with recurving spines. In the common domestic cat these are small, but sufficiently well developed to give the tongue a feeling of roughness. But in the lion and tiger the spines are strong enough to enable the animal to tear away the skin of a man's hand merely by licking it.

There are several species of fish, reptiles and insects which never sleep during their stay in this world. Among fish it is now positively known that pike, salmon and goldfish never sleep at all. Also that there are several others of the fish family that never sleep more than a few minutes during a month. There are dozens of species of flies which never indulge in slumber, and from three to five species of serpents which the naturalists have never yet been able to catch napping.

HINT TO MOTHERS.

"I need a new carpet for my dining-room," commented a woman recently, "but I tell the children while they are so careless at the table the old one will do as well. It is a Wilton, worn to canvas, and on occasion the maid actually takes a scrubbing-brush to the grease spots."

"Why, do you know," replied her companion, "I bought a new one this spring on purpose to improve my children's manners while eating. They greatly admire the freshened room, and it is a matter of pride with each one as he gets down from his chair to see how few crumbs he can leave."

This is a whole sermon in itself. Children are peculiarly susceptible to the beauty or otherwise of their surroundings. They may not be able to voice it—may not be conscious of it, even, but it is none the less a potent influence on their behavior. "I used to notice," said an observing person once, "in a family which I visited quite frequently, that when my visit was confined to a chat in the library, a lovely, enobling room, full of books and sunshine, if the children were visible at all, they were exceedingly mannerly and charming, while on occasions when I would go down informally to the home luncheon or dinner, their behavior was quite different. The room was dark and sunless and the belongings good, but with all freshness worn off. I finally attributed the change in the children's conduct to their different environment."—Times.

RECIPES.

Raised Fruit Cake.—Two cups of sugar, one cup butter; all well beaten; one pint of bread sponge (light), one teaspoonful each of soda, cinnamon, cloves and one-half a nutmeg; fruit to taste; flour to make rather stiff; set in warm place to raise one hour, bake in moderate oven.

Rice and Meat.—2 cups cold boiled rice, 1 teaspoon onion juice, 1 tablespoon chopped parsley, ½ pound cold minced meat, gravy or tomato sauce. Grease a plain mould and line it throughout with the rice. Mince and season the meat, add the onion and parsley, and fill up the mould, packing it closely. Cover with more rice and steam ¾ hour. Turn out and cover completely with the gravy or tomato sauce.

Emergency Sauces.—Every woman at times is in want of a sauce quickly, and the following will often just fill the bill: Dissolve one tablespoonful of cornstarch in one-half cupful of cold water; stir this into one cupful of boiling water; add one cupful of sugar, the juice of a small lemon, a little nutmeg, and one tablespoonful of butter.

Another of this kind is made as follows: Whip one cupful of cream and one-half cupful of sifted, powdered sugar and flavor as you desire. Fresh or preserved fruits may be used if liked.

How did you come out with your lawsuit?

I won it.

Get damages?

Sure. I got almost enough to pay my lawyer.—Cleveland Plain Dealer.

They are laughing in Washington over a rebuke that a sentry of one of the departments administered recently to the Russian ambassador's coachman.

The coachman, it appears, wished to drive his master's carriage along a roadway that for some reason was barred. When the sentry refused to let the carriage pass the coachman remonstrated.

"I drive," he said, "ze Russian minister."

"I can't help it," returned the sentry.

"Let me t'rough," persisted the coachman. "My master is ze Count Cassini, ze ambassador extraordinary and minister plentipotentiary of ze czar of all ze Russias."

"Frenchy," said the sentry, "I wouldn't let you through even if your master was a free born American citizen."—Ex.

TO BE CHEERFUL.

The sovereign voluntary path to cheerfulness, if our spontaneous cheerfulness be lost, is to sit up cheerfully, to look round cheerfully, and to act and speak as if cheerfulness were already there. If such conduct doesn't make you soon feel cheerful, notning else on that occasion can. So, to feel brave, act as if we were brave, use all our will to that end, and a courage fit will very likely take the place of fear. Again, in order to feel kindly toward a person to whom we have been inimical, the only way is more or less deliberately to smile, to make sympathetic inquiries, and to force ourselves to say genial things. One hearty laugh together will bring enemies into a closer communion of heart than hours spent on both sides in inward wrestling with the mental demon of uncharitable feeling. To wrestle with a bad feeling only pins our attention on it, and keeps it still fastened to the mind, whereas if we act as if from some better feeling, the old bad feeling soon "folds its tent like an Arab and silently steals away."—Prof. James, in Scribner.

WISE FATHER.

When Mr. Rudyard Kipling was a lad he went on a sea voyage with his father, Mr. Lockwood Kipling. Soon after the vessel got under way, Mr. Kipling went below, leaving the boy on deck. Presently there was a great commotion overhead, and one of the ship's officers rushed down and banged at Mr. Kipling's door. "Mr. Kipling," he cried, "your boy has crawled out on the yard-arm, and if he lets go he'll drown!" "Yes," said Mr. Kipling, glad to know that nothing serious was the matter, "but he won't let go."—Academy.

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Los Angeles Markets.

Los Angeles, Aug. 6.

Farmers are holding for higher prices on hay with promise of getting it.

Grain, particularly, is advancing, which may be on account of farmers being two busy with threshing to haul in. Te demand also seems unusually good.

Poultry is coming more readily than heretofore.

Ranch eggs very scarce and commanding ready sale with quotations same as last week.

Butter.

B. of T. Creamery, per -lb roll		60
Coast Creamery	.55	
Cooking per lb	.22	25

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.25	.26
Fresh Eastern	.22	.23
Store, case count	.24	.25

Potatoes.

Potatoes, per ctl.	75	1.00
Sweet potatoes	4.00	5.00

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.40
Onions, yellow		.60
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chilles, green, per lb.	2½	.03
Peas, green, per lb.	.03	
Lettuce, per sack	.25	
Radishes, doz. bunches	.15	

Fruits; Fresh.

Green figs, per lb.		.10
Apricots, box of 30 lbs.	1.00	.75
Cantaloupes, per doz.	.25	1.00
Water Melons, per doz.	.50	1.50
Strawberries, box, fancy	.07	.10
Raspberries, per box	.05	.07
Lemons, per box	.75	2.00
Oranges, Navels, per box	1.25	2.50
Seedlings		1.00
Grape Fruit, per box	.75	1.00
Limes, per 100	.90	1.25
Prunes, per box	.40	.60
Peaches, per box	.25	.50
Northern Apples, per box 40 lbs.		1.00
Local Apples, per box, 30 lbs	.25	.60

Fruits; Dried.

Apricots	.04	.06
Pears	.07	.08
Peaches peeled	07	08
Peaches, fair to good, sks	.03½	05
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.06
London layers, per box	**1.00@2.00**	
Loose, per box	6¼	7

Poultry.

Spring chickens	.15	.16
Hens, No. 1, per lb	.12½	13
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22	.23
Ducks, per lb	.10	12½

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	**4 00**	**5 00**

Hay and Grain.

Barley hay	8.50	10.50
Alfalfa, large bales	8.50	10.50
Wheat hay	7.50	9.50
Barley, per ctl.		.95
Corn, per ctl		1.50
Wheat	1.35	1.40
Oats		1.10
MILL STUFF.		
Rolled barley		1.05
Bran		1.25

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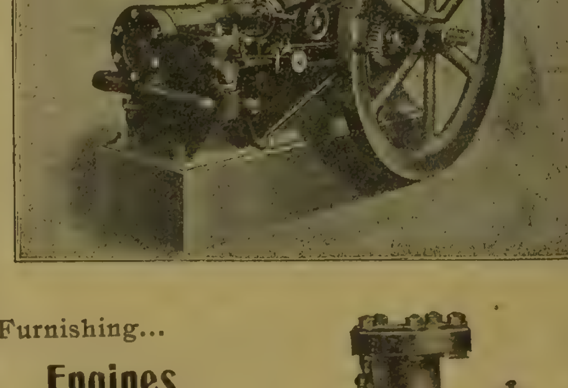

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SAMSON IRON WORKS STOCKTON CALIFORNIA

San Francisco Markets.

Dairy.

San Francisco, Aug. 6, 1903.

Butter seems to be still weaker than last week, due largely to the continuous shipments of Eastern. Strictly fancy grades of coast creamery usually command the top quotations, and seem to be hardly in sufficient quantity for the local demand, at the same time the immense storage of Eastern keep the prices hammered down.

Cheese remain steady although the supply seems slightly in excess of the demand. The receipts of butter range from 45,000 to 50,000 pounds per day. Quotations are:

BUTTER	
Creamery, extras	25½@26
Creamery, firsts	24 @25
Creamery, seconds	22 @23
Dairy, extras	22 @23
Dairy, firsts	20 @21
Store	18 @19
Eastern Creamery	23 @24
CHEESE—Per lb:	
Cal. Creamery, mild new, extra	14 @15
Cal. Creamery, mild new, choice	13½@14
Young America	14 @15½
Eastern, New York Cream	18 @19
Do, new	14½@16

Eggs and Poultry.

The choice eggs are commanding slightly higher prices than last week, and the market has advanved sufficiently to make it possible to work off some of the cheaper grades. Top figures are being commanded with receipts slightly less than last week. Quotations are:

EGGS—Per Doz.:	
Ranch, selected large	27 @28
Ranch, good to choice	25 @26
Store	20 @23
Eastern	18 @21

Two to three cars of Eastern poultry are arriving daily. Quotations are:

POULTRY—Old Roosters, per doz, \$4.50@\$5; young Roosters, \$6@8; Fryers, \$4@4.50; Broilers, large, \$3@3.50; small, \$2.50@3; Hens, \$4 @5; Ducks, per doz., old, \$3@3.50; young, \$3.50@4.50; Turkeys, nominal; Geese, per pair, \$1.25@1.50; Goslings, \$1.25@1.50; Pigeons, per doz, young, \$1.50@1.75; do, old, \$1.50.

Fruits and Vegetables.

The shipments of large quantities of fresh fruits from northern points has helped somewhat to stiffen the markets, notwithstanding the local demand is only moderate. All fruit shipments to Puget Sound country has been of necessity only of the very finest and best packed, which left a quantity of medium stock for local trade, which had the tendency to depress the market. Large supply of fresh apples with only moderate demand. Poor and wormy stock over abundant, in some instances going at buyers' prices. Figs firm. Seedless grapes more plentiful and weaker. One car load of Valencias was received Tuesday, and sold at \$2.75 and \$3.00 per box. The purchase being for export to Hawaii. Local market dull, with little interest. Quotations are:

DECIDUOUS FRUITS.—Apples, per box, common to choice, 40@80c; fancy, \$1@1.25; Crabapples, per box, 25@75c.

Peaches—Per box, 30@65c; basket, 20@35c; bulk, per ton, Freestones, \$15@20; Clingstones, \$20@25.

Pears—Per box, No. 1. Bartlett, 75c@\$1; common, 25@60c; bulk, per ton, \$20@30; other varieties, \$25@55.

Plums—Per box or crate, 25@60c; bulk, per ton, \$15@20, according to variety.

Prunes—Per box or crate, 35@60c, as to variety.

Figs—Per box, 75c@\$1.25.

Apricots—Per box, 40@60c.

Cantaloupes—Per crate, 75c@\$2.

Nutmeg Melons—Per box, 35@75c.

Watermelons—Per 100, \$5@20.

Grapes—Per box or crate: Seedless, 85@\$1.25; Black, 50@90c; Fontainbleau, 50@80c.

Nectarines—Per box or crate: Red, 40@75c; White, 40@65c.

BERRIES—Per chest: Strawberries, large varieties, \$2.50@4.50; Blackberries, \$2.50@3.50; Raspberries, \$3.50@6; Huckleberries, per lb., 8@10c.

Potatoes are in good demand, and market has been steady. Liberal exports of Salinas Burbank readily command \$1.50 with a few sales at \$1.60. Green corn is very plentiful and has a weak market. Tomatoes are in heavy receipt, and prices are favorable to the buyer. Quotations are:

VEGETABLES—Asparagus, per box, nominal; Tomatoes, per box, small, 10@20c; do, river, large box, 20@35c; Green Peppers, per box, Bell, 30@65c; Chile, 25@40c; String Beans, per lb., 2@3c; Lima Beans, per lb., 2@3c; Wax, 3@4c; Egg Plant, per box, 40@75c; Summer Squash, per box, 15@35c; Cucumbers, per box, 25@40c; Garlic, per lb., 2@3c; Green Corn, per sack, 75c@\$1.50; crate, \$1@1.75; Okra, per box, 50@75c.

ONIONS—New Silver Skins per ctl., 60@75c.

POTATOES—New Whites, per box, \$1.15@1.75; per sack, 90c@1.50; Early Rose, per ctl., 75c@\$1; Garnet Chile, per ctl., \$1@1.15; Sweet Potatoes, per lb., 2½@3c.

Dried Fruits, Nuts, Etc.

Little interest is shown in Dried Fruits and the business in progress is confined mostly to job-lot transactions. In new Fruits buyers are still indifferent and local brokers are reporting an easier tone to the markets for both Apricots and Prunes, although they are not quoting out any lower prices. Both comb and extracted Honey are now arriving in liberal quantities and prices are less firm and are quoted at a slight decline.

DRIED FRUITS—Prices for carload lots f. o. b. at California common shipping points, in bags, for 1902 crop, are, per lb., as follows:

Apples—Evaporated, 4@6½c; Sun Dried, 3@4c.

Apricots—Royal, choice to fancy, new, 6¾@8c; old, 6½@7c; Moorparks, choice, nominal.

Peaches—4¼@6½c.

Pears—4¾@9½c.

Plums—Pitted, 4½@6c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2¼@2½c, with ½@1c premium for large sizes; new crop, 2¾@3c.

Nectarines—Whites, 4@5½c.

Figs—White, 5½@6c; Black, 5c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, \$1.40; 3-crown, \$1.50; fancy clusters, 4-crown, \$2; Dehesa, 5-crown, \$2.50; Imperials, 6-crown, \$3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16 7¾c; 12 oz., 6¼c; bulk, 7½c; choice, 16 oz., 7½c; 12 oz., 6c; bulk, 7¼c.

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—New Comb, per lb., White, 14½@15c; Light Amber, 13½c; Extracted Water White, 6½c; Light Amber, 6c; Dark Amber, nominal.

BEESWAX—Per lb., 32c.

Live Stock.

There has been no change in the live stock market other than hogs are slightly off. There are liberal stocks on hand and the market is lively.

Quotations are:

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@8½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb.: Fat Wethers, No. 1, 4@4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, \$2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 140 lbs and over, 6@6¼c; weighing under 130 lbs, 5¾@6c; weighing 260 to 350 lbs, 5½@6c; rough heavy, 4½@5c.

Hay and Feed Stuffs.

HAY—Prices on new Hay, per ton: Wheat, \$11@14; Wheat and Oat, \$10.50@12.50; Oat, \$8.50@12.50; Barley, \$8.50@11; Clover, \$8@10; Alfalfa, \$9@10.50; Stock, \$8@9.

falfa, \$9@10.50; Stock, \$8@9.

STRAW—Good to choice, per bale, 45@60c.

FEED CORN MEAL—Choice grades, per ton, \$32.50@33.50.

GROUND BARLEY—Per ton, \$22.50@23.50.

MIDDLINGS—Per ton, \$27@30.

BRAN—Per ton, \$24.50@25.50.

RICE MEAL—Mill price, \$18 per ton.

CRACKED CORN—Choice quality, per ton, \$33@34.

COCOANUT CAKE—Best quality: In lots of 10 tons and upward, \$20 per ton; 5 tons, \$20.50; small quantities, \$21.

BEANS—Prices per ctl.: Large Whites, \$3@3.15; small do, \$3.15@3.30; Pea, \$3.25@3.50; Lima, \$3.45@3.60; Red, \$2.90@3; Pink, \$3@3.10; Bayo, \$3.65@3.75; Blackeyes, \$2.75@3; Red Kidneys, nominal.

Cereals.

WHEAT—New crop: No. 1 shipping, per ctl, \$1.41¼@1.42½; choice, \$1.43@1.45; White Milling, good to choice, \$1.50@1.60.

BARLEY—New crop: Choice, No. 1 Feed, \$1.05@1.08¾; Shipping, \$1.12½@1.20; Brewing, No. 1, \$1.16¼@1.22½; Chevalier, nominal.

OATS—Feed, good to choice White, \$1.22½@\$1.32½; White Milling, \$1.32½@1.37; Red, \$1.15@1.27½; Black, \$1.12½@1.20.

RYE—Good to choice, per ctl., \$1.10@1.15.

CORN—Good to choice, per ctl.: California, new large Yellow, \$1.50@1.55; small do, \$1.70@\$1.75; White, \$1.50@1.55.

Hops.

The prices for new crop are 18 @20c per lb, according to quality.

Eastern Markets.

New York General Market.

CHICAGO, Aug. 5.—There was a firm opening in wheat, due to the higher cables and the continued rain throughout the Northwest, September being ¼ to ⅝ higher, at 80⅝@81; All the outside markets were strong early in the day, and this was a bull factor here during the first few minutes of trading and helped to hold prices temporary, but so much long wheat came out on the advance that the prices began to decline steadily. The Northwest markets, which had been strong early, had quite a severe decline later in the day on predictions of more favorable weather for that section of the country, and this fact aided in the down turn. Extreme weakness prevailed the latter part of the day and September declined to 79⅝, closing at 79⅝@79½, a net loss of ⅞ to 1. Trading in corn was rather quiet, and governed largely by the action of wheat. Favorable weather for the crop restrained the bulls, and small ones held the bears in check. Illinois report, making the condition of the crop 73 August 1 against 78 last month, had a strengthening influence, but the weakness in wheat overbalanced all other factors. The close was weak with September ⅛ to ¼ lower, at 52⅛.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 81@82; No. 3, 76@80; No. 2 red, 78⅛@79¾; No. 2 corn, 51¾@52¼; No. 2 yellow, 52¾; No. 2 oats, 33⅝@35¼; No. 2 white, 34¼; No. 3 white, 34½@35½; No. 2 rye, 50½@51; No. 1 flax seed, 93.

Grain Movements.

Articles	Receipts.	Shipments.
Flour, barrels	33,300	26,800
Wheat, bushels	285,200	3,900
Corn, "	248,900	294,900
Oats, "	14,400	100,400
Rye, "	13,200	......
Barley, "	13,200	2,700

On the Produce Exchange today the butter market was steady; creamery, 14@18½; dairy, 12½@17; eggs, steadier at mark, cases included, 11@13; cheese, steady, 10¾@12.

Chicago Live Stock.

CHICAGO, Aug. 5.—Cattle—Receipts, 26,000, including 500 westerns; ;market slow; good to prime steers, 5.10@5.50; poor to medium, 3.75@4.90; stockers and feeders, 2.50@4.30; cows, 1.50@4.50; heifers, 2.00@4.60; canners, 1.50@2.75; bulls, 2@4.25; calves, 2.50@6.65; Texas fed steers, 3.50@4.75. Hogs—Receipts today, 25,000; tomorrow, 25,000; left over, 1800; market strong; mixed and butchers', 4.90@5.60; good to choice heavy, 5.25@5.50; rough heavy, 4.60@5.20; light, 5.35@5.75; bulk of sales, 5.15@5.40. Sheep—Receipts, 18,000; lambs steady; good to choice wethers, 3.60@4.00; fair to choice mixed, 2.75@3.50; western

sheep, 3.00@4.00; native lambs, 3.25@6.25; western lambs, 4.00@5.90.

California Dried Fruits.

NEW YORK, Aug. 5.—The market for evaporated apples continues quiet and steady; common are quoted at 4@5½; prime, 5¾@6; choice, 6½@6¾, and fancy, 6¾@7½: Prunes attract fair jobbing demand, and rule steady to firm with the larger sizes showing a somewhat harening tendency, though prices still range from 3@7 for all grades. Apricots are firm on spot with some demand reported for future shipment. Choice are quoted at 8@8¾ and fancy at 10@12. Peaches rule steady and quiet, with choice quoted at 7@7½, and fancy at 8@10½.

ST. LOUIS WOOL MARKETS.

ST. LOUIS, Aug. 5.—Wool unchanged, firm; Territory and western mediums, 16½@18½; fine medium, 14½@16; fine, 13½@16.

MARKET NOTES.

Three hundred tons of alfalfa were recently bought in Riverside county to be shipped to Los Angeles. The price paid was $10.50 net to the growers at Riverside.

Local butter market about the same as last week, with the exception of heavy increase of eastern cold storage. There is now over one million pounds being held here, as against 700,000 pounds last year.

Wheat seems to be strengthening in the market and the wheat farmer has promise of a big year. Local prices are eminently satisfactory at present.

CITRUS MARKETS

ORANGE MARKET.

The market the past week has been quiet but steady, cool weather no doubt assisting in handling the rather heavy receipts of oranges. The markets are amply supplied by liberal shipments that went out week before last. Auctions have maintained a firm front, and for a few extra fancy goods paid high prices. Indications are for a continuation of the present conditions if arrivals continue moderate. Western markets are quiet and somewhat easier on Valencias. Good cars of seedlings or sweets bring fair prices but these are scarce.

LEMON MARKET.

Lemon prices have gone from bad to worse, New York sales of foreigns showing a steadly decline, with weak fruit selling at very low prices. Western markets are overstocked with Californias and the Central states markets with foreigns, and there is nothing encouraging in sight at the present time. Some points have shown nigh temperatures but nothing sufficiently steady in this line effect lemon sales materially. The average shipments of lemons last week were 66 2-3 per cent of the week previous.

CITRUS FRUIT SHIPMENTS

Shipments of citrus fruits from Southern California for the season, from November 1, 1902, to date, are 21,269 carloads, of which number 240-4 carloads are lemons.

AUCTION SALES.

NEW YORK, July 29.
A. H. F. Co., Artesia Valencias, $4.80; Squirrel, $3.75.
T. Co. F. Ex., orchard run Valencias, $3.30.
BOSTON, July 29.
Market steady.
S. A. F. Ex., Indian Hill Mikes, $3.75; Volunteer Mikes, $3.35; Foothill Mikes, $3.25.
C. C. U., Lindsay Missletoe Valencias, $3.10.
PITTSBURG, July 29.
Market steady.
T. Co. F. Ex., State Valencias, $3.25; Captol Valencias, $3.05.
O. K. Fr. Ex., Quail Lemons, $2.50.
CLEVELAND, July 29.
A. H. Fr. Co., Palm Tree Valencias, 35 per cent decay, $2.75; Palm Tree Lemons, 10 per cent decay, $1.85.
S. S. Fr. Ex., choice, $2.75; Standard Lemons, $2.
NEW YORK, July 31.
Riverside Fr. Ex., Hermosa Valencias, $3.75. Golden Rule Valencias, $3.50; Golden Rule Sweets, $2.50.
Riverside F. Ex., Blue Globe Sweets, $2.10; Red Globe sweets, $2.
BOSTON, July 31.
Market steady.
C. C. U., Redlands, Camelia Valencias, $3.90; Blossom Valencias, $3.65.
PITTSBURG, July 31.
Market steady.
C. C. U., Highlands, Camellia Valencias, $3.50; Blossom Valencias, $3.00; Baby Valencias, $2.60; Highland Lemons, $3.55.
C. C. U., Fullerton, Dragon Valencias, $2.95.
CLEVELAND, July 31.
Market weak.
S. T. Fr. Ex., Premium Lemons, 2.65.
CINCINNATI, July 31.
Market steady.
S. T. Fr. Ex., XXX Lemons, $3.05; E. E. E. Lemons, $2.30; Standard, $1.25.
NEW YORK, August 3.
A. C. G. Fr. Ex., Blue Seal Valencias, $3.10; Green Crown, $3.20.
C. C. U., Covina, Topaz, $3.25.
PITTSBURG, August 3.
Market weak.
S. S. Fr. Ex., S. S. choice sweets, 35 per cent decay, $2.30.
CLEVELAND, August 3.
Market advancing.
S. B. Co. Fr. Ex., Floral Mikes, $3.15; Floral Sweets, $2.75.
BOSTON, August 3.
Market steady.
O. K. Fr. Ex., Quail Valencias, $3.40; Owl Valencias, $2.30.
CINCINNATI, August 3.
Market steady.
T. Co. Fr. Ex., Royal Navel, 2.35.
O. I. C. Navels, 2.55; O. I. C. Sweets, 2.20.
PITTSBURG, August 3.
Market steady.
O. K. Fr. Ex., Quail Valencias, $3.35; Owl Valencias, $2.90.
NEW YORK, August 5.
Riverside Fr. Ex., Hermosa Valencias, $3.60; Golden Rule Valencias, $3.40.
CINCINNATI, August 5.
Market steady.
S. T. Fr. Ex., Don Quixote Valencias, $3.35; Glass Bowl Valencias, $2.95.
BOSTON, August 5.
Market steady.
S. T. Fr. Ex., Don Quixote Valencias, $3.05.
CLEVELAND, August 5.
Market weak.
A. H. Fr. Co., Palm Tree Lemons, 15 per cent decay, $1.80.

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

BLOODY MILK.

Dr. Fenimore: I have a young cow which has been giving bloody milk out of one teat for two or three weeks. Have given her several doses of nitrate of potash to no purpose. Has been giving milk four months. We feed hay, bran and green alfalfa, also green sorghum.—W. C. Bullard, Chino.

This condition may exist from a number of causes. If the food is two rich and abundant it must be reduced. If caused from acrid plant, they must be removed. If congested or inflamed from an injury, loosen the bowels and follow with ½ ounce of potash with 1 dram of chlorate of potash once a day. Bathe the udder with hot water and rub with camphorated lard . Milk carefully.

* * *

ECZEMA.

Editor Cultivator: I have a horse which has been troubled for several months with some itching skin disease; the hair comes out in spots, and he is very nervous, keeps biting himself.—Subscriber, Alliance.

Give an aloes ball composed of Barbadoes aloes 1 oz., nux vomica, belladona and ginger, each 1 dram. After that has acted mix eight ounces each of potassium, nitrate of hyposulphite of soda and give one tablespoonful in the feed three times a day. Keep the itchy places well shampooed with creoline.

* * *

EMACIATION.

Dr. Fenimore: I have a horse very poor, has been so for six months. Has been doing light work and has plenty of good feed and fresh water, but will not gain in strength or flesh. After removing the harness he strikes his sides with his teeth.—Subscriber, Santa Rosa.

Description not sufficient to make a diagnosis.

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Los Angeles, Cal., June 30, 1903.

The following named children have been received in the Boys' and Girls' Aid Society Home since April 1st.

Half orphans: William Higgins, male, aged 11 years, light hair, blue eyes; Harry Higgins, male, aged 10 years, light hair, blue eyes; Rowland Higgins, male, aged 8 years, light hair, blue eyes; Harry Higgins, male, aged 6 years, light hair, blue eyes; Ruby Higgins, female, aged 4 years, light hair, blue eyes; Peppa Bailey, female, aged 3 years, black eyes, dark hair; Roberto Bailey, male, aged 4 years, dark hair, black eyes; Gertrude Chapman, female, aged 6 years, dark hair, black eyes; Chester Garwood, male, aged 9 years, light hair, blue eyes; George Garwood, male, aged 11 years, light hair, blue eyes.

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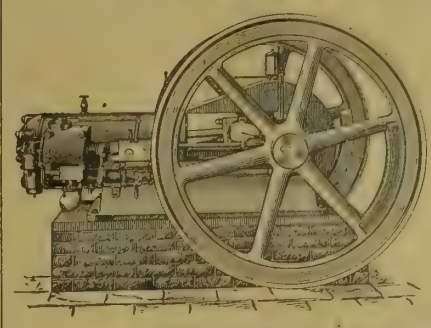

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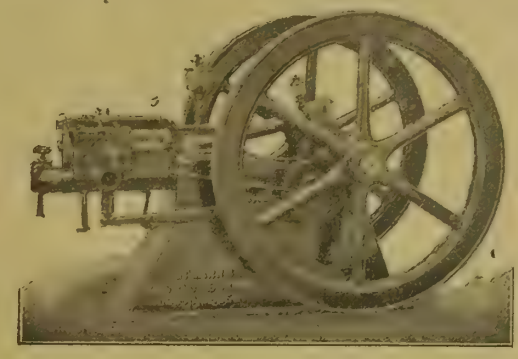

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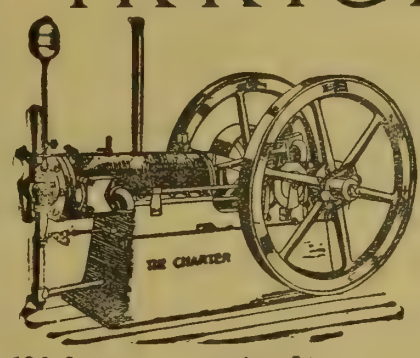

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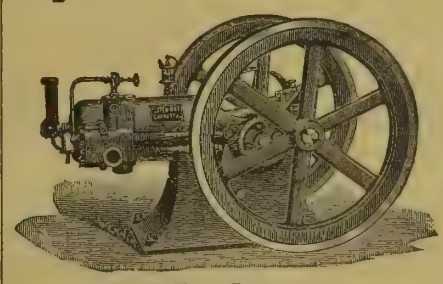

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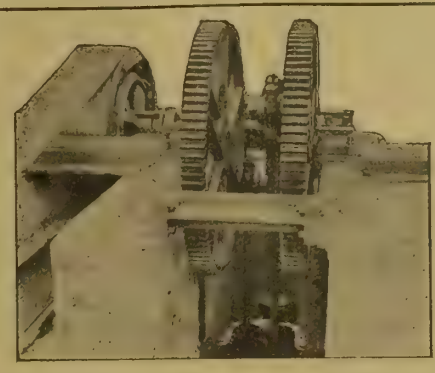

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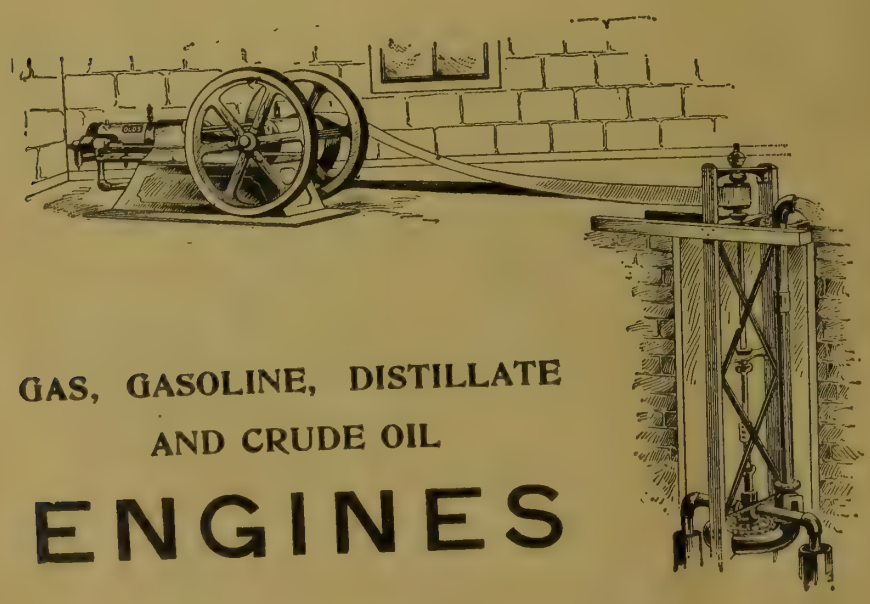

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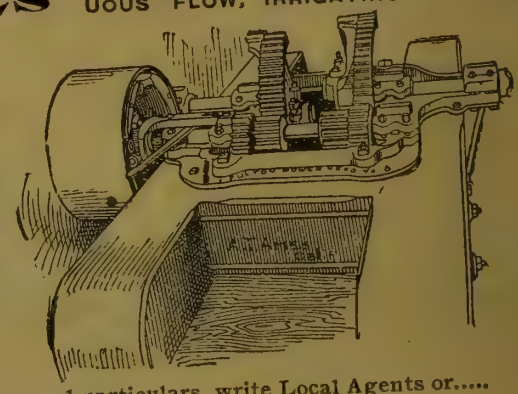

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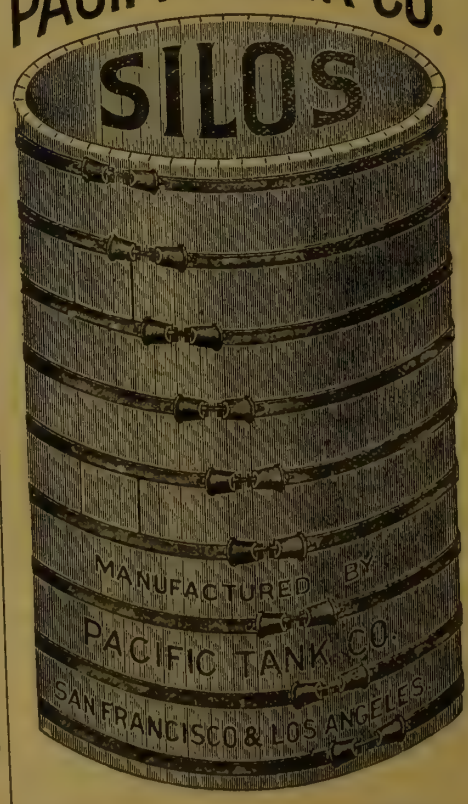

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 7 LOS ANGELES, CAL., FRIDAY, AUGUST 14, 1903 Subscription $1 a Year

. . . PRODUCTION OF GRAIN . . .

Of the 99,827,200 acres of land included with the boundaries of the state of California, there are only 28,828,951 used in farming. This is 28.9 per cent of our total area. More is being reclaimed from the desert each year, and some of the back valleys of the mountain ranges are being given outlets so that their fruit, and cereals may reach the market so that the increase in number of farms has been regular and constant since 1860. The increase during the past decade was 37.1 per cent. This increase does not include the large cattle ranges.

The impression has prevailed that cereal production for the past few years has declined, giving way to the more profitable and more popular fruit production, that is, in sections where the soil and water justifies the farmer

Prince Harvester, owned by Warren Fowler, Lodi.

entering into the production of fruit. This impression is shown by statistics to be erroneous, for notwithstanding the great increase in fruit production, the extension of the agricultural fields has kept pace, and when there has been sufficient rainfall the average of years ago has been maintained.

This must have called for a vast extension of acreage, because it is well known that the production per acre has lowered the average. As noted the one great factor which controls the cereal product is the rain fall, as may be seen from the following figures. The season of '80 there were 26½ inches of rainfall at San Francisco, the production of wheat that year was 34,150,000 centals; in '82 the rainfall was 16 inches, production 21,000,000 centals; '88 rainfall was 16 inches, production 18,643,000, '89 the rainfall was 32 inches, production 25,000,000 centals; '98-9 when the rainfall ranged from 4.99 inches to 12.91 inches in the wheat section, the wheat product was reduced to 6,741,420 centals. Last year that was nearly trebled by the rainfall being less than double that of the preceeding year.

The total acreage devoted to the production of all cereals in '99 was 2,984,036 acres, as against 2,561,800 acres in 1879. The largest average yield is found along the San Joaquin and Sacramento rivers. San Joaquin reports more barley, rye and wheat than any other county. Sutter County more buckwheat, and Sonoma more corn and oats.

While the yield per acre was declining during the years which the great valley has been producing grain almost exclusively, the labor cost per cental has been reduced to less than one third what it was. Then the methods of plowing and preparing the ground and of sowing the grain were all very crude as compared with present methods.

To furnish seed, plow, sow, harrow, and bring the grain ready for the harvest, the cost does not exceed $3 per acre. With the combined harvester $2 per acre will cut, thrash, clean, and sack all at one operation, this includes the cost of sacks. Of course, these figures contemplate the farming in great fields, sometimes miles in extent, where the possibilities for the most economic handling prevail. The production of this machinery has given rise to some of the largest of California's manufactures, and many farm machines are produced here in greater perfection than in any other section of the world. We recently mentioned in these columns a new feature brought out by the Samson Iron Works of Stockton. It is simply the adaptation of the gasoline engine to running the harvester of the combined machine. Heretofore these machines were drawn by about thirty horses, and the motion conveyed to the threshing machine by the friction of the broad

Houser-Haines Harvester, owned by Wm. Journey, New Hope, Cal.

wheels upon the ground. This is still the case, of course, with many machines, but the objection of so many horses being required, coupled with the uneven motion given the cylinder, especially at turns of the corner, etc. resulted in unsatisfactory results. The Samson people introduced the idea of pressing a distillate gas engine into use, and driving the cutting and threshing machinery by it. The horsepower to propel the machine is reduced to about one half, that is, instead of thirty-two horses from fourteen to eighteen now do the work. The uniform motion given to the thresher gives far better results in cleaning and threshing of the grain. We give on this page three photos of different machines, which have been fitted with this convenience, and we are informed that the work is eminently satisfactory to the owners.

The firm, which manufactures this new appliance has only been in operation for about three years, but the growth of the business has been such that only recently it moved into its new quarters occupying three acres of ground in Stockton, and today is keeping a large number of people constantly busy manufacturing gasoline and oil engines, pumping plants and other farm machinery. The crude oil generator which they attach to all their engines from 1½ to 75 horse power works to perfection, and is the most economical of plants,

Prince Harvester, owned by Jacob Brack, Lodi.

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. . . FARM ORGANIZATIONS . . .

The following extracts are from a paper by Prof. C. B. Sumner of Claremont, read at the Seaside Institute.

Organization is union—in union is strength. The stronger the units bound together the stronger the resultant. Cotton and hemp strands woven together make a strong rope. Wire strands woven together make a cable of far greater strength than the rope of hemp or cotton. Our farmers and horticulturists are strong in themselves. They include men of large ability and culture. Many of them are prosperous. Bind all together and they become a mighty power in this state:—I may almost say the mighty power. Indeed, let them act as a unit and they are irresistible—* * *

Why should we farmers organize?

I. For the purposes of economy. We are farming, I take it, for what there is in it. Whatever else we seek and find, we want profit—the largest possible margin. This means economy of expenditure all along the line.

(1) First, economy in production. We all know something of the advantages of wholesaling. The advantages are just as great on the farm as anywhere else. Wholesale farming in the west has driven the New England farmers to the wall. * * *

(2) What is true of production is true of handling. The best fruits, vegetables, hay and grain may be so handled as to lessen, even destroy their value.

It was my good fortune recently to go through and examine the methods of handling and the fruit handled on the Limoneira ranch, and I am satisfied that Southern California has lost thousands and thousands of dollars by poorly handling lemons. * * *

What may be ruinous for one man to do alone, may be highly profitable to a number with mutual interests combined together, with that end in view. Scientific gathering, and handling, and scientific machinery are no less a necessity than good fruits. All are necessary to profit.

(3) We are slowly learning something about transportation. Our transportation companies are powerful. They are combined. We must meet them by combination or we are lost. You know what the reduction of twenty-five cents per box on the transportation of lemons meant to us a part of last year. Had it not been for the Southern California Fruit Exchange who of us would have expected to receive it by our personal solicitation? * * *

No sane man looking at the interests of our farmers will think of meeting the great future before us without fuller and closer organization in this matter of transportation.

(4) Perhaps there is less general information about marketing than any other branch of our business. A very little study of the different markets, and possible markets, and of auction sales, and conversation with wholesale dealers will convince anyone that we have to do with a shrewd set of men, and we must be on the alert to cope with combination of dealers and importers, even if we have no competition from our own home field. * * * *

More and more are influences felt in our markets from all over the world. We must meet combinations against us. Knowledge must stand against knowledge, business ability against business ability. Organization is just as necessary for business purposes as for governments. It is necessary in peace and in war.

II. We have occasion to organize not only for the sake of economy, but also for purposes of legislation.

Let us not shut our eyes to the facts. Our experience with a fertilizer law, and with the tariff, if nothing else, demonstrates the necessity of careful and close organization in order to further and protect our interests. The veriest tyro in fruit raising knows something of the work of the Southern California Fruit Exchange in the legislative halls at Washington. There Greek meets Greek. Important industries must be watched in order to secure even-handed justice. Hardly an industry but has its representatives at court, at the opportune time, and they are not all scrupulous about the other man's interests. We need the tariff, and we must watch to keep it. * * * * * *

Would our government, think you, have entered the arena of irrigation legislation, had not organized effort year after year kept the matter before the minds of our legislators?

In our own state as well, legislation is an important factor. What proportion of the taxes should our farmers pay? What is the equitable assessment? Should co-operation be made easy or difficult? Are there few spheres or many in which co-operation may work for our interests as well as

(Continued on page 111)

CALIFORNIA CULTIVATOR

ESTABLISHED 1860
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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Entered at post-office at Los Angeles, Cal., as second class matter.

Friday, August 14, 1903

Circulation this issue 8,350

NATIONAL IRRIGATION CONGRESS

The National Irrigation Congress to convene September 15 to 18 at Ogden promises to be one of the most strenuous sessions that organization has ever held. The ten millions appropriated by the last Congress makes vast improvements possible in a few sections of the arid West. What sections are to be favored by a slice of this appropriation may largely be determined in this convention.

The convention will be attended by leading irrigation experts, representatives of agricultural institutions, state engineers, noted foresters, fruit growers, farmers, and business men. California should have a full quota of delegates. The basis of representation is so liberal that every section of this state may have delegates if it will attend to regularly appoint them.

Full particulars may be had by addressing the Eleventh National Irrigation Congress, Ogden.

INDEED!

The absurdly so-called "National" Irrigation Congress (really a cabal of far western people interested in the arid lands) is to be held this year at Ogden, Utah, Sept. 15 to 18.—Country Gentleman, Aug. 6.

Really, now, that is refreshing. The word "National" applies only to a 6x9 section on the bank of the Hudson, immediately surrounding Albany. Therein lies all patriotism, and the rest of the country should not be permitted to gather in "National" conventions. If they do they should immediately be dubbed a "cabal of far western people" and the government should call out troops and return them to their reservation.

The Country Gentleman should travel a little and widen its horizon. The Adirondacks and Catskills are serious obstacles to a good view from Albany, but if the "Gentleman" would climb a hill some morning, take a look westward, he would get a view which would jar him.

The world do move—westward—and ultimately annexation of the arid west may make us a part of the nation.

EDITORIAL NOTES.

The national beemen are to meet in Los Angeles next week. They anticipate a formation of a National Co-operative Market scheme, by which it is hoped better distribution and better prices may be secured for their product. It is now reported that a special train is on its way from Chicago with over 500 delegates from all parts of the country. There are in California over 3,000 beemen who have organized and are handling their output far more successfully than formerly under the hit-or-miss plan of marketing.

* * *

The recent experiments by the Santa Fe railroad people, in which they shipped green lemons direct to Chicago, and kept them in cold storage for several months, has not proved the success that was hoped for it. The idea was to see if the fruit would not have better keeping qualities than if held in California, and then packed and shipped when thoroughly cured. The weak point in the plan was when it was removed from cold storage, and it showed very poor keeping quality.

* * *

The great Southwest which is usually considered the arid section of America does not seem to be the only one that realizes the benefits of irrigation. Recent dispatches state that government engineers are surveying along the south fork of the Walla Walla river. By later information it seems that a large scheme is under way for the construction of a huge dam across the canyon. If completed on present lines it will back the water a distance of five miles into the mountains. A valley thirty miles in diameter will be irrigated with the water thus impounded.

* * *

The expectation is for the greatest crowd that ever entered the state at one time, to be here next week. The crowd of course will be largely made up of the old veteran who is coming to attend the annual encampment of the Grand Army. Others will be drawn who come to make this their permanent home; still others for pleasure only. Great preparations are made to receive all the visitors, not only in San Francisco, where the sessions are to be held, but in nearly all other sections of the state. Los Angeles is storing up large quantities of watermelons and things, with which they hope to impress the visitors with the hospitality of that section. O course San Francisco will do things in her usually magnificent way. We all say welcome to the old soldiers.

* * *

The light crop of apricots this year is said to be nature s protest" against the enormous crop which the trees were compelled to bear last year. Last year the crop was such an immense one that many trees bore such small fruit, no thinning having been done, that the fruit was of no value and the trees were seriously injured. It is well known that the maturing of the pit requires a great amount of potash, and it is a great drain upon the trees, yet many growers pay no attention to thinning; if the fruit is large enough, good, if it is not, fruit production is cursed, and the growers lose what might otherwise have been profitable to them. That was the result the first year, now the light crop of this year continues the loss. Moral: See that the thinning process is used to protect the trees every year, and a uniform crop will prevail.

* * *

The orange growers of Covina have been seriously discussing the advisability of destroying all cull oranges at home, rather than sell to the "Dagoes" who haul the cull fruit to Los Angeles, and sell it at a price which prevents good fruit from entering that market, at the same time giving growers almost nothing as returns from their fruit. The fruit peddlers are the only ones who have the benefits of these sales. We believe this discussion should lead to the general discontinuance of such practice. It is possible that each packing house may save a few dollars instead of having the work to dispose of the unsalable fruit. But they sell it to the Dagoes for a few cents, it has largely destroyed the sale of better fruit, for as a matter of fact, the purchasers of culls in Los Angeles pay almost as much as they would have to pay for better grade fruit. It is claimed over 300 carloads of this grade of fruit are sold in Los Angeles every year. While the number of cars of good fruit absorbed by the same market can be counted on the fingers of one hand.

FOR BETTER WORK.

A movement is now on foot which will help very materially in making the Farmers' Institutes more valuable to all who participate in the meetings.

The U. S. Department of Agriculture has created a Farmers' Institute department, and John Hamilton, the specialist in charge, is collecting information as to the life and work of all the speakers in Institutes, with a view of furnishing special information to them that they may in turn give it to the farmers.

The idea of the Farmers' Institutes seems to be steadily gaining ground all over the country. The old notion that "book farming" was of no practical value, is giving way, and now the average tiller of the soil welcomes every idea from scientific workers that may help him in his labors.

Never before were there such great problems to be solved by the farmer, and the government can do no better service for all the people than to help solve them. At the present time as well as in the past, the government has done everything in its power to help the manufacturer. Not only has it protected the home market, but it has helped in exploiting foreign fields of trade. So great has been the solicitude for our "infant industries" that foreign countries are now retaliating by placing embargoes on our products, principally those from the farm.

The Farmers' Clubs can do for the rural population what the business men's clubs and boards of trade have done for manufacturing interests. Without going into partisianism they can demand and secure protection to farm products, they can secure greater help from the government consuls in exploiting new markets for their grain, fruit and stock. They can secure appropriations to pay scientists to help them in their combats with insect pests and they can themselves by meeting together find better methods of marketing and co-operating in a hundred ways.

The government now appropriates hundreds of millions annually for the army and navy, and to agriculture, (on which everything depends and in which half the wealth of the country is invested) only six millions are given.

Farmers' Clubs and Institutes can do a great work when they once become thoroughly organized.

SIGN YOUR NAME.

The "Cultivator" is in receipt of the following, which from the postmark on the envelope, we see is from Inglewood.

"Will the 'Cultivator' kndly enlighten a newcomer regarding the care of blackberries and grapes?"—A Subscriber.

It is a rule of the Cultivator as it is with all papers, to answer to the best of its ability, all letters directly or through its columns which come from subscribers, providing the name of the subscriber is attached. This fact was noted in last week's issue in Mr. Braunton's department. The rule is so invariable, that as a mere matter of courtesy at least, we ask our subscribers to sign up. Anyone who prefers his name withheld will have the request strictly adhered to.

In this particular case "Subscriber" asks a question which if answered would take several pages of the size of the "Cultivator" to be comprehensive.

Mr. Mills has had many pages on the grape question, as to their varieties, the manner of planting, pruning, budding, and grafting, wine grapes, raisin grapes, arbor grapes, also on the blackberry. To repeat all these would be too much, yet if our subcriber to whom we would write this if we had his name, would be more explicit in this question, we could help him greatly. This is strictly the business of the "Cultivator" to give our subscribers the stuff they wish, and we appreciate these requests when they are stated so carefully that we may determine what the subscriber wants.

Sign your name, then read the letter over carefully, and ask yourself, if you were absolutely ignorant of the wishes of the writer, can you determine what is wanted.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

UNFAIR CRITICISM.

The Fullerton News two weeks ago contained an editorial upon the fruit marketing question that is about the most ill-considered utterance put out upon this subject for some time—and there have been many expressions of unfair criticism of co-operative methods in the press since the California Fruit Exchange and the Citrus Union joined in one marketing agency. It is difficult to convey the animus of an article under consideration without extensive quotation, which space will not permit in the crowded columns of the Cultivator. Briefly, the News holds the fruit agency responsible for the low prices received for fruit; asks if the grower is getting a fair deal under the present system of marketing; likens the Citrus Union to the Standard Oil Company; charges that the agency is not competent to exploit the markets, and claims to be still seeking light and hopes, possibly, to get it. Perhaps the Cultivator can aid the News in the matter of the light which all will agree it needs upon this important topic.

Let us first admonish the News that there is no safer policy for it to follow than one adopted by an overwhelming majority of the business men who are running citrus fruit farms in Southern California. These men have fought out and settled every proposition advanced, or, rather, resurrected by the News.

"Red ink sales," so freely bandied about by the Fullerton paper, had been staring exchange, individual shipper and dealer in the face a month before the consolidation into one agency was thought of. In fact, it was the awful condition of the February and March markets that caused the wise leaders in the business of selling oranges to get together in an effort to stem a general calamity. Could we by any occult means see the condition that would have followed a continuation of the policies in vogue on the first of March, no one would have the hardihood to compare the results of the balance of the season with results obtained by the fruit agency. It would be as calamity to partial failure.

The worst feature of the News editorial is that in which it charges the fruit agency with failures that are clearly chargeable to the bad condition of the fruit. This can be controverted by one simple statement of fact, namely, that good, sound fruit arriving in market in condition to keep while retailing brought good prices through the agency the entire season.

Strange that fair-minded men fail to recognize facts, and proceed to distort the public mind without a business-like suggestion for something better. Bear in mind that the News article is wholly critical, and offers no substitute for the present order of things. The Fullerton paper asks if the growers are getting a fair deal under the present plan of marketing fruit. This insinuation is met by the statement that if the News holds that poor, decaying fruit can be sold for sound fruit prices by the agency, then the growers did not get a fair deal. If fruit little better than culls in carrying quantities can be sold for prime fruit, then there is no perishable feature involved, and there is no use of producing anything but bad fruit. The public is anxiously awaiting the evolution of a scheme through which worthless goods can be raised by some hocus-pocus to valuable products. We await the News in its creative powers.

Our contemporary was peculiarly unhappy in likening the Citrus Union or the Fruit Agency to the Standard Oil Company in its operations. No one is compelled to do business with either the union or the exchange, neither by circumstances nor through the aims of these institutions. Neither has anything to do with the production of the commodity which they sell. The Standard Oil Company will not permit any other company to produce oil if it can prevent it. No limitations are set upon the production of oranges by the union or the exchange, but they do offer to

sell the fruit to the best possible advantage to all. As the growers had tried to do the selling act individually until general bankruptcy was staring them in the face, criticism comes with ill grace from anyone who has the interest of the industry at heart. Especialy is fault-finding reprehensible from a community which persisted in ignoring the exchange through all its years of struggles for a foothold in the business of doing what the growers could not do for themselves.

The article says that the combine officers have not and never will endeavor to create a demand or open up new territory. Was there ever a more outrageous statement? The agency has established a great system of drumming up the fruit trade. It is doing more every week of the season to open up new territory than the commission merchants did in a year while they held the whip hand over the growers.

The entire article is devoid of depth and fairness and must have been suggested by some one who is egotistical enough to hold that co-operation is not as effective as individual effort—an idea at variance with everything but silurian practice in this age of the world.

It is also devoid of anything like helpful suggestion, and is a cold-water-pourer only. But the intelligent growers will not follow the false prophets whose advice tends inevitably toward the chaos of commission dealing. According to the doctrine of the News and "a prominent grower," it is safer to deal with a commission man two or three thousand miles away than to deal with a firm of well-known fruit packers at home, which has its thousands invested in packing facilities right in his own neighborhood. The eastern commission man has no property investments here or elsewhere. Will you return to his fold? Not if past experience is consulted.

CLIMATE AND CROP REPORT.

Condensed from the weekly Bulletin issued by California Section of the Climate and Crop Service, in charge of Alexander McAdie.

Sacramento Valley.—Cool weather prevailed during the first of the week, followed by high temperature in the latter part. Grain harvest is nearly completed and the crop is being shipped. The yield of wheat is below average. A fair crop of barley. Hops have improved in the past two weeks, and in the Wheatland district will be an average crop; picking commenced on the 12th. Grape picking has commenced in some places. Fruit drying and canning are progressing. Orange trees are putting on new growth and the crop looks well.

Coast and Bay Sections.—Cool, foggy weather prevailed in the coast districts. Sugar beets, beans and corn are doing well. Hops are not in very satisfactory condition and will probably be below average. Grapes are commencing to ripen in some sections. Nearly all deciduous fruits are yielding large crops, excellent in quality.

San Joaquin Valley.—Clear, warm weather prevailed and was very beneficial to the fruit crop. Heavy shipments of green fruit continue to eastern markets. Grapes have made fine progress and are commencing to ripen. Citrus fruit is making excellent growth. Honey will be about three-fourths crop. Alfalfa hay is plentiful. Stock of all kinds healthy.

Southern California.—Weather conditions were about normal and favorable for crops; the fogs in the coast districts were beneficial to beets and beans. Grain harvest is completed in some sections. Wheat, barley, oats and hay are excellent crops. Sugar beets at Anaheim are reported light, but there is a heavy crop in the Santa Maria district. The bean crop will probably be less than usual owing partly to smaller acreage. Citrus fruits are in good condition. Walnuts have been injured by blight and the crop will be short.

Eureka Summary.—Much grain cut along the coast but the weather is not favorable for harvest; warm in the interior. Hay baling is progressing rapidly. Vegetables average the same as last year. The fruit crop is unusually heavy.

Coast News and Notes

By R. A. Dague, 1045 Regent St., Alameda

Petaluma is shipping about 60,000 dozens of eggs per week.

Inyo county reports one-half of the apricot output of last year.

The Home Telephone Company are going to take the Fresno field.

Corning is erecting a fruit evaporator of 20,000 pounds capacity.

The growers about Los Gatos are talking of a large co-operative store.

The "Petaluma Poultry Journal" is giving a department to the Belgian Hare industry.

Yuba City reports the receipt of 2500 sacks of grain per day. The crop will be larger than anticipated.

T. F. White of Chino has an order for one of his road-oiling machines from Lexington, Kentucky.

The sixth regiment is encamped for its summer drill at Santa Cruz; the seventh regiment at Coronado.

The first shipment of Bellefleur apples will begin in the Pajaro valley about the middle of September.

B. F. Moore, of Pomona, berry grower, supplied twenty tons of blackberries to the Pomona Cannery.

The grain growers of Sutter County are urging the reorganization of the old Grain Growers' Association.

The most destructive forest fire occurred near Nevada City last week. Many acres of timber were destroyed.

Ten thousand acres formerly in a big ranch at Willows is to be subdivided and placed on the market in small holdings.

The Sutter County Almond Growers' Association is advertising for bids for a large almond crop. It will control 150 tons.

There is a great scarcity of horses in Manitoba, and heavy shipments are being made into that section. Some days as high as eight cars.

Watsonville rejoices in the erection of a large number of packing houses for handling the largest crop of apples in its history.

The campaign for spraying in the Pajaro valley has been so successful that those who were opposed to it have entirely changed.

The city of Pasadena is having a little excitement over the strenuous work of its humane society. Several arrests for cruelty to animals have resultd.

A tempest in a tea pot seems to have been stirred in the Highland insane asylum by a discharged employee. Investigation has proved that the charges contain no truth.

A report from Astoria, Oregon, shows an immense run of Royal Chinook salmon. The run is said to have lasted several days, and hundreds of boats are taking advantage

The Tulare county shipments of citrus fruits amount to 896 carloads, of which Lindsay shipped 351, Porterville and near by places 308, Exeter and Lemon Cove 195, Zante 33, and Sultana 112.

Irwindale is becoming the cucumber center for the southern part of the state. The daily shipments from there to Los Angeles amount to 200 or 300 sacks. The net to growers is about $20 per ton.

Banker I. W. Hellman predicts that the financial troubles of Wall Street will in no way affect the prosperity of the country. He also says that the Pacific Coast is not dependent upon Wall Street for its prosperity.

The early prediction that the crop of prunes for this state this year would only be a half crop has been withdrawn and it is now claimed the crop will be very fair. Oregon has prospects of an exceedingly large crop.

The supervisors of Monterey and Santa Cruz counties are considering the advisability of appropriating $500 for further experiments to determine whether the larva of the codling moth, which find lodging in packing houses, may not be successfully exterminated.

One day last week 150,000 boxes of peas were sold at Suisun for $1.00 per box.

Geo. C. Roeding is encouraged at his success this year in shipping fresh figs to Eastern cities.

The work of establishing the poultry experiment station near Petaluma is going forward satisfactorily.

Professor F. L. Beals, of the U. S. Department of Agriculture, is now in Sonoma county studying the bird pests in the orchards and grain fields.

The recent shipment of pears and plums from California to London was a success. The fruit arrived in good condition and sold for good prices.

"Santa Rosa's Pride," Lou Dillon, has won fresh honors at Cleveland, Ohio. Her last achievement was a mile in 2:02¾ against a heavy wind.

Petaluma is discussing the advisability of adopting the "Santa Rosa idea" of having an auction day at home, for the sale of eggs and poultry.

Professor E. W. Major of the animal industry department of the State University is in Northern California purchasing cows for the use of the dairy school.

Secretary Filcher of the State Board of Trade called a meeting of the vineyardists and wine men in San Francisco last week. Plans were adopted for a gigantic exhibit of California wine at St. Louis.

The Union Pacific and Oregon Short Line have announced that they will refuse to carry over their lines consignments of sheep not accompanied by clean bills of health from the United States Bureau of Animal Industry.

The various fruits unions of Santa Clara county, with the Santa Clara County Fruit Exchange, have re-united in re-establishing their common selling agency which went out of existence at the organization of the prune trust These organizations are incorporated bodies.

The Grange, of Healdsburg, at a late meeting, passed resolutions denouncing the adulteration of wines and asking for state legislation o the subject. They instructed their delegates to the State Convention, to be held at St. Helena Aug. 15, to introduce a similar resolution into that assemblage.

At a late sale held by the Santa Rosa Poultry Association the San Francisco buyers combined to keep the bids for eggs below 25 cents per dozen. The Association refused to sell and stopped the auction. They sent a representative to the city who got what the producers demanded

Thos. J. Fisher has taken charge of the Lakeside Hotel, near San Diego, and is putting it in first-class shape for the reception of guests at this delightful resort. The hotel is surrounded with pisturesque grounds, which with the lake, make it one of the most attractive resorts.

E. H. Twight, viticultural expert at the University of California, is authority for the statement that the grape crop for this season will not be as large as has been promised. He said the inroads of phylloxera and the Anaheim disease are such that the output will be seriously cut down.

Business men of the city of Los Angeles are agitating the question of consolidating the city and a portion of the county. This will involve cutting off the northern section in which is Lancaster, also the eastern section with Pomona as a center from Los Angeles county. The move was inspired by a desire for more economical administration of the city and county affairs.

Agents have been scouring the San Joaquin valley buying all the wheat they could . For a time it was not known who were the purchasers. Then the story came out that the mills of California had been caught in a losing proposition on the shipment of flour to the Orient. Early in the season it was thought that it would be easy to buy all the wheat required at from $1.35 to $1.40, but at this writing fancy milling is worth $1.59.

A beet sugar factory is being erected at Caldwell, Idaho, to cost $80,000.

A large smelter is to be built near Bakersfield. There will be two fifty-ton furnaces.

Heavy and long continued rains have nearly ruined the crops in Austria. Ths loss is several million kroners and the end is not yet.

The Guggenhime Company, San Francisco, has purchased the stock of almonds of the Davisville Almond Growers Association, aggregating 238 tons.

Paul Bertali, of Santa Rosa, manufacturer of macaroni, is rapidly extending his business. He now sends monthly to San Francisco 8000 pounds, besides smaller quantities to neighboring towns.

The Packing-house Employes' Union of Fresno, has demanded of the raisin packers that none but union men shall be employed. The wages demanded are 12½ per cent higher than was paid last year and are: For common labor, 22½ cents an hour; women, day labor, 17½ cents an hour; stemmer men, 25 cents an hour; kiln men, 30 cents an hour; packing seeded raisins, 5½ cents for one-pound cartons; larger packages, 7 cents, according to grade.

GENERAL NOTES.

The world's consumption of sugar annually is about 10,000,000 tons.

The 6,000,000 acres of state forests in Prussia yield a net annual profit of $9,000,000.

Bavaria has 2,150,000 acres of forest, from which she derives a net return of $3,222,000 a year.

From over 2,000,000 acres of productive forest owned by the French government a net profit of $1.91 per acre is had yearly.

At a late public sale of hogs at Peru, Indiana, a fine sow sold for $2100. The Standard Farm Company of Logansport was the purchaser.

German exports to the United States during the fiscal year ended July 1st last was $119,778,625, or a net increase of $18,064,561 over the preceding year.

The "Chicago Live Stock World" says the country is facing a shortage in beef cattle, and that we are to return to the prices of the summer of 1902.

Pig iron production during the first half of 1903 was over 9,707,367 tons, and good critics say the outlook for total output of over 20,000,000 tons in 1903 is excellent.

Frederick Vayerhauser, E. H. Harriman, T. B. Walker and Jacob Blodgett have joined forces with James Hill and purchased such enormous quantities of timber lands in the West that they will be able to control the Western lumber market.

There is a dairy farm at Quednau, Prussia, of 450 acres. The buildings, including the barns and outbuildings, are lighted by electricity. The pumping of water, driving of saws, mills for grinding feed, the great churns—all machinery is run by electricity.

A statement prepared by the Bureau of Insular Affairs of the War Department shows the customs revenues in the Philippines for the first four months of 1903 to have been $2,931,782 against $2,901,011 in the same period in 1902, and $1,255,657 in 1899.

A RICH SECTION.

A section of country out of the beaten paths is that along the coast north of San Francisco. The counties in it are Marin, Sonoma, Mendocino and Humboldt. The California Northwestern railroad passes through its richest valleys and its finest scenery.

In the four counties composing this section there are 7,123 square miles, or 4,558,720 acres, and a population of less than 100,000. There is plenty of room for a million. Although we have only two seasons, summer and winter—a dry season and a wet one—no irrigation is required, and no crop has ever been lost through drouth.

R. X. Ryan, Mutual Life building, San Francisco, the general passenger agent of the above named road, freely gives information regarding this rich section.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

Nervous System—The nervous apparatus of insects is quite like our own in a general way. There are two kinds of nerve matter in both; the gray cells, which if we liken this system to telegraphy, receive and transmit the messages; and the white fibers, which like the wires of the telegraph carry the dispatch. There are also two parts of the system; the cerebro-ventral, which answers to our cerebro-spinal, brain and spinal cord, and the sympathetic. The latter and the brain of the former recall our own in position, while all but the brain of the former is ventral. Thus what answers to our spiual cord is close along the lower side of the insect body. This consists of a chain or series of ganglia—masses of gray matter—connected by a double cord of white fibers. In our own spinal cord the gray matter is continuous. The brain of the higher insects, bees and ants, is also quite large and complex; we even find quite considerable convolutions. As we study the habits of these higher insects, we do not wonder at the high structural development of the brain.

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Glands—The glands of many insects are phenominal in their development. Thus in the silk-moth caterpillar or larva, the so called silk worm, the silk glands which are only enlarged salivary glands reach back and almost fill the abdomen. In bees there are two pairs of large glands in the head, one of which connect with a similar though larger pair in the thorax. All four of these have a common duct which empties at the very base of the tongue. The secretion from these contains the ferment that digests the nectar or cane sugar and converts it into honey. Thus we see why honey is so desirable as food. It is digested sugar, and requires no digestive effort to fit it for use in our bodies, as we take it for food. We need much sugar, especially when young, I believe we can do no better by our children, than to give them all the honey that they wish at each meal. The other head glands of the bees furnish the digestive ferment that acts on the pollen or proteid food of the bees. This then answers to our gastric juice. The bees and all stinging insects have poison glands which produce the poison. These are large and secrete the poison which is stored in a great poison-sack, located just at the base of the sting. Many insects have glands at the base of hairs which secrete an odorous substance which evidently serves to protect the insect, as the bird does not like it, and so is slow to take these instces, which it refuses unless pushed by extreme hunger.

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Reproductive Organs:—As we should expect these organs are in pairs and are situated high up in the hinder part of the abdomen. In form, position, structure and development they remind us of the same in many of the higher animals, though the ovaries are tubular instead of follicudar, and the testes are follicular instead of tubular. The eggs and sperm cells recall strikingly the same in higher animals. If we use a circle to illustrate a cross-section of an insect, the centre will mark the alimentary canal or digestive track; the heart will show at the top or dorsal region; the breathing tubes extend along the sides and will show at the sides of the circle, while the nervous cord will show below, or at the ventral side. If well back in the abdomen, the reproductive organs would appear high up between the breathing tubes and heart, one on each side.

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SEASIDE INSTITUTE.

This experiment was a decided success in most respects. In fact the only special regret or criticism was the small attendance from the immediate locality. The program was exceptionally strong, and that it was appreciated was evidenced in the close attention paid by the large audience for nine hours each day for a full week. The five series of course lectures were given closest heed, those of Mrs. Minnie E. Sherman attracting exceptional attention. Her style is very taking, her fund of information surprising, while the success which she has attained in dairy lines and fruit production is rarely excelled by any one in any place. We are to be congratulated that she is to be one of our regular institute staff.

It was the unanimous wish of the large, able and representative audience that the Seaside Institute should be an annual function. The wish was also expressed that the manager should be authorized to secure the service of some competent reporter, who should give a full and correct report of the important proceedings of this and the Farmer's Clubs' Institute, and if possible of all the local Institutes.

The two most stirring papers were those of R. C. Alen and Prof. C. B. Sumner. The former one of our most capable and successful farmers, settles the vexed question in favor of the distillate spray, and the latter a masterful presentation of the subject of organization, so pleased the audience that it was voted and stoutly urged that all papers in Southern California be pressed to print the paper in full.

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CABBAGE CATERPILLAR

The gardens about Long Beach are seriously injured by the caterpillar of the cabbage butterfly. Pieris rapae. This common white butterfly, with two black spots on the upper side of the front wings of the female, and one in the male, was imported from Europe only a few years ago, and is now in every state and territory. It is the worst insect pest of the cabbage. The eggs and caterpillars are green, and the chrysalis a yellowish-green. There are two broods and possibly three in this region. If we would have saur krout we must fight. The remedy is Paris green, one ounce to 12 gallons of water with 1-4 pound of lime added, for the caterpillars that work before the cabbages are headed. For the later broods, I would use "bubach" or pyrethrum, one ounce to a two gallon pail of water. I think the danger not great of using Paris green at all times, but others would object, and as bubach is effective, and has no objections, I would only recommend it after the cabbages are headed.

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GALLS ON ROOTS OF MULBERRY.

Subscriber from San Diego sends roots of mulberry thickly beset with tubercles, much like those caused by bacteria on legumes, or root-form of Phylloxera on grapes, or nematoid worms on various plants. Something is surely working to irritate the roots. It is probably nematoid worms or possibly aphids. If the tree seems to suffer, I should try bi-sulphide of carbon as often recommended in the Cultivator for such injuries.

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SURPLUS HONEY.

P. C. Cartter, Monrovia, asks why it is not wise to have honey stored directly in glass jars, and why it is not desirable to sell chunk honey in pails filling the pails with extracted honey. He has a good market for such honey.

It is not practicable to secure honey in jars except for exhibition. It is difficult to get the bees to store in the jars, the jars cost too much, and the glass is stained to serious disfigurement. The common sections are preferable in every way. Chunk honey, as suggested, has been sold often and in quantities. It is not neat and would not be desired by many. There is a prejudice against it as it has been a common form of mixing glucose with honey. The glucose keeps the liquid retainer from candying, which would be desirable. But the glucose is unwholesome and a fraud and we wish none of it. There is no objection in selling chunk honey in pure extracted honey, if the market warrants it.

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AUTUMN INSTITUTES.

The fall series of institutes begin with La Habra, August 17th. On August 26-27 will be held an institute at Santa Barbara inconnection with an exhibit of cattle. Mrs. Minnie Eshelman Sherman, and Prof. Anderson will both be with us. Prof. Anderson will judge the cattle. An institute will be held at Goleta August 28th, and 29th at Carpenteria August 31st and September 1st. On September 2nd and 3rd an institute will be held at Ventura and on the 4th and 5th at Fillmore. On September 7th there will be an institute at Fernando, and on September 8th and 9th, at Tropico. Others will be announced next week. Dr. and Mrs. Sherman will help at all these institutes. Horticulture Inspector Maskew will talk apples. Prof. Anderson will not be able to aid us beyond the Santa Barbara Institute.

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SANOSIN.

We have recent accounts, gained through our German Consul, of very important work now being done in the German laboratories. This looks to nothing less pretentious than the curing of that dreadful disease, tuberculosis. It is reported that a German, dwelling in Australia, noticed that where the eucalyptus abounded consumption was less prevalent, and some of the native tribes use a concoction from various species of eucalyptus quite successfully in curing this dread disease. The account runs that this gentleman commenced experimenting and has succeeded in securing an article composed of carbon, sulphur and eucalyptus extract which is very deadly to the microbe of tuberculosis. Numerous experiments are claimed to have proved that when sanosin is vaporized in a room it has rare curative properties, so that many cases of confirmed consumption have been entirely cured by this treatment. This certainly is a remarkable discovery, if the results are anything like what they are claimed to be.

This leads me to urge the further planting of the eucalyptus in our waste lands and along our California roadsides. If this tree has curative influences against the disease which will ever be more or less prevalent in our delightful, salubrious southland, then surely we have another reason for the liberal planting of the eucalyptus. If we are wise in selecting the varieties we will also have a tree of great economic value and will add to the beauty of our landscape as we cannot do in any other way. I find I am coming more and more to admire the rare grace and beauty of these splendid trees. The eucalyptus is also to be recommended because of its very rapid growth. We must remember, also, that it comes from Australia, whose arid climate is very similar to our own, thus these trees have grown up under neglect of moisture, and are fitted by their very bringing up to resist extremes of heat and drought. Thus it is that no tree will be more sure to thrive under our peculiar conditions than the various species of the eucalyptus. I wish to speak of a few species that I am sure no one will regret having planted. For ornament I am very fond of E. viminalis. We have many of them on our main avenue in Claremont, and, except where that arch despoiler, the electric wire fiend, has mutilated them, they are indeed models of grace and beauty. The trunk is white, the leaves narrow, and the branches drooping. This gives a combination that can hardly fail to attract the attention of the most unobserving. I wish also to recommend E. sideroxylon. I have one of these in front of my house, and often hear people commenting upon its beauty. The foliage is especially attractive and it has the same graceful drooping habits that makes E. viminalis so admired. The rdt gum, E. rostrata, is also a beautiful tree for roadside planting. I feel grateful every time I drive to Pomona, to one of our neighbors, who has had the good sense to plant a fine row of E. rostrata along the road in front of his place. These send out a beautiful rich white bloom in the early spring time, and as the blossoms remain for a long time, they are doubly attractive. These trees are also more symmetrical than are most of the species of eucalyptus. I am not acquainted personally with the habits of E. rudis, but my friend, Prof. A. J. McClatchie, praises this as one of the very best of the eucalypti. He is certainly authority, and upon his authority, as also of Mrs. Minna E. Sherman of Fresno, I do not hesitate to recommend E. rudis to any who contemplate tree planting. Of course, we shall all want Eucalyptus ficifolia. Its brilliant scarlet bloom is so attractive that it ever wins admiration from all who see it. This tree, however, is rather adapted for the home grounds, as it is not a rapid grower, and I understand does not attain the size of the other species, all of which attain majestic proportions. Another species is E. citriodora. This is desirable from its beauty and the pleasant scent of the leaves when pressed. It has the objection, however, of not standing heavy frost. It is likely to kill back if the thermometer goes down to 25 degrees F. during the early years. I know of one in Claremont that has now become quite a sizable tree. It killed back quite badly in its earlier years, but has passed the two last winters of quite severe frost entirely unscathed. I sincerely hope that this article will induce many to set eucalypti. One of our neighbors set a year ago quite a large tract of the common blue gum. Eucalyptus globulus. They were set on stony ground unfit for anything else. They have made a wonderful growth and are now a real ornament to the landscape, and also conceal an unsightly stone heap. If all our people who own such land would follow this gentleman's example it would be an incomparable blessing to our state. It is also worthy of remark that evergreen trees like the eucalyptus may safely be set at any time of the year. We have only to look to it, that the roots are never exposed, but are always kept moist. Then, by giving a little attention to watering for the first two weeks nature and the vigor of this tree will do the rest.

* * *

FOG FRUIT.

I have been repeatedly asked regarding the merits of fog fruit , usually referred to as Lippia repens. It is really Lippia nodiflora. It has been used somewhat as a substitute for lawns. It belongs to the same family as the lantanas and verbenas. They are mostly American and there are many of this genus. The one in question is wide of distribution and grows on very poor soil and with every little water. It is a creeping plant and the stems take root from the nodes. The roots thicken below during the time of rain and thus the plant maintains itself in times of drought. The plant is not resistant to alkali but as stated above is one of the best plants known to stand drought. It will also stand quite a degree of cold. Its temperature range runs from 10 degrees F. to 110 degrees. Good authorities say that it will keep vigorous with less water than any other desirable plant that grows within our borders. It is not a good grazing plant nor does it produce a large amount of foliage. In case we wish to cover a piece of ground with a mat of pleasing vegetation or in case we wish to fix the sand that it may not blow away, this fog fruit may well be secured. Therefore Lippia nodiflora is excelent to plant on reservoirs and on embankments that are liable to be washed. If, as stated, this plant does not develop seed, then surely it cannot become a serious injury. It is not difficult to eradicate. At certain seasons it is covered with bloom that is very attractive to the bees. In case we cannot get enough water to grow a clover lawn, then we may well utilize this Lippia nodiflora.

A fresh egg has a somewhat rough shell; a stale egg is smooth.

California Horticulturally...

John Isaac, Sacramento

BENEFITS OF WINTER IRRIGATION.

Winter irrigation is growing in favor in the Santa Clara valley and it has been demonstrated that those fortunate enough to have a supply of water and wise enough to use it, have sustained no losses from dying trees and have had pretty good crops. For several seasons there was a great shortage in the rainfall here, in common with the rest of the state, and the level of the subterranean water table was lowered to so great an extent that the roots of the trees in many cases stood in dry ground. The annual rainfall was not enough to fill the soil down to the lower level and as a result the trees died from drought, and many, which did not die, were so weakened that they have not yet recovered despite the fact that we have at last had a season of abundant rainfall. Where the soil was filled with water during the winter months and then properly cultivated, the trees have done well and have returned good crops.

* * *

GOOD WORK AGAINST THE CODLING MOTH.

Good reports continue to come from the apple sections of the Pajaro valley in regard to the efficacy of the work being done there this season against the codling moth. Under the direction of Prof. Woodworth, thorough and systematic work in spraying with Paris green has been done, and it is reported that, in some of the orchards treated, there will be not to exceed three to five per cent of wormy fruit. Various compounds have been experimented with and so far it is discovered that there is no better wash than the old reliable Paris green which our orchardists have relied upon for many years. It is something to have learned this, and something, too, to know that by getting pure Paris green and using it with some regard to system, so much can be accomplished as has been done this season. It is a very difficult thing to convince the doubting Thomases and to get these doubters to line up with the workers who have faith. It is these men who hold back and nullify the work of the progressive farmer, for if a man spent ever so much money, time and energy in fighting a pest, and his neighbor stands by and does nothing, he is wasting his time and accomplishing no good. It is in demonstrating that Paris green is the best insecticide to use, in proving that if used properly it is effective, and in getting all or nearly all to work together, that Prof. Woodworth has done yeoman's service in his summer's campaign against the Codling moth in the Pajaro valley this season.

* * *

LIME, SULPHUR AND SALT AN EFFECTIVE WASH.

The California wash for scale pests—salt, sulphur and lime—is winning for itself a great reputation in the East, where for some time it was declared wholly ineffective. All sorts of reasons were adduced to account for its inefficiency east of the Rockies, while it was so perfect a remedy on the Pacific Coast. The difference in climate was finally allowed to be the reason, as they have so much rain in the East that the compound would not remain on the trees long enough to do any good, but this seemed a poor reason to Californians inasmuch as our spraying is done during the rainy season. Continued experiments there, however, have demonstrated all that we have ever claimed for salt, sulphur and lime as a destroyer of San Jose scale and other members of the aspidiotus family. At the last meeting of the Association of Economic Entomologists in Washington, D. C., Prof. A. L. Quaintance, State Entomologist of Maryland, made a report on this wash and stated that in several experiments he had made with it he had found it very effective, practically killing all the scale on the trees sprayed. The scale were not killed at once but many lived some time after the application, and young ones were hatched from eggs laid after the application of the wash, but all gradually died and in the fall the trees were free from the scale, and perfectly bright and clean. In winding up his report he says: "The final outcome of these tests of the wash was quite a surprise. It would appear that results have been expected too soon after the application of the wash, and it further appears that a sufficient amount of the wash probably remains on the trunks and limbs to destroy the larvae coming from those females which escaped the treatment. The final effect of the wash in the two cases cited, and in other cases that have come under my observation, leads me to believe that we have a most valuable treatment for the San Jose scale in the lime, sulphur and salt wash."

* * *

NO LABOR SHORTAGE THIS YEAR

We are now in the midst of the busy season. Canneries, dryers, packing houses are all in full operation, and work in the hop fields, orchards and and vineyards is in full swing. An encouraging feature of the work this season is that, so far, there has been little complaint of lack of help. It is true that very many more people could find employment than are now engaged, but sufficient help has been obtained to make us feel comfortably sure that very little if any of the present season's fruit crop will be lost. Very much apprehension was felt early in the season for fear that there would be a repetition of last year's experience in this mater, but as "forewarned is forarmed" our fruit men have been preparing against a shortage and have done fairly well in avoiding it. A great deal of credit for this is due to the labors of the California Promotion Committee and the Committee on Labor appointed by the Fruit Growers' Convention, who have worked together, and by their united efforts have induced a very large immigration of young people to come to work in the California fields and orchards.

"The insect sees the tiny mite,
And eats him as his natural right;
The chicken sees the insect fair,
And dines upon him, then and there;
Man eats the chicken, if he can;
And such is nature's wondrous plan,
That this same man—perhaps 'tis just—
Is swallowed up by some big trust."
—Coleman's Rural World.

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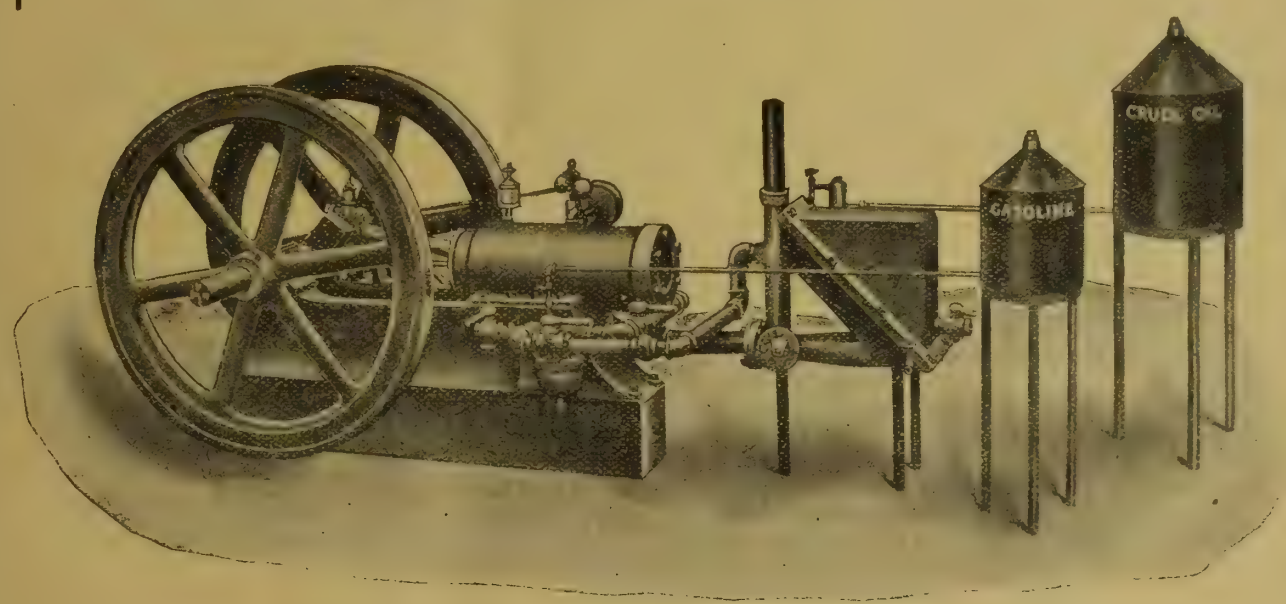

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We are soliciting orders for these engines for next season. Give us a call when in Stockton, or drop us a card and we will call and see you.

Samson Iron Works Stockton, Cal.

By J. W. Mills, Ontario, Cal.

BUDDING WALNUTS.

Editor Cultivator:—Can you inform me through the Cultivator where a double-bladed knife, as you described some time ago, can be bought. I want it for budding walnuts. Any information you can give regarding time of budding the walnut or other pointers on the subject, will be gratefully received.—W. G. Clark, Riverside.

The double-bladed budding knife you want can be secured from or through the seed and plant firms who advertise in this paper.

The walnut should be budded in the late summer when the bark slips readily. If the trees are kept in a vigorous condition, August and September are the months. The proper way to secure good one-year-old budded trees is to bud the seedlings in the fall and allow the buds to lie dormant over winter. In the spring the top is removed and the whole summer's growth is forced into the bud. We have seen such buds make over fifteen feet growth during the first season in the nursery.

The ring bud that is made with a double-bladed knife is very simple, the cut that removes the bud from the scion is repeated on the stock. The bark is removed from both and the scion bud is inserted in the place where the bark is removed from the stock, and bound with waxed cloth. The double-bladed knife insures a perfect fit.

The patch bud is made by making two parallel cuts around one side of the stock, then cutting a vertical slit so as to make two flaps when the bark is raised. A square piece of bark cut so as to contain a bud in the center, is taken from the scion and placed beneath the flaps of bark on the stock, so that the bud comes directly under the two edges of the flaps. The upper and lower edges of the two sets of barks must match. This will occur if a double-bladed knife is used; if such a knife is not available, have a piece of cork, or some guide, to place where the cuts are to be made.

* * *

CORN WORMS.

Editor Cultivator:—How shall one get rid of the corn worm? Is grape pomace from the winery good as a fertilizer? If not, why?—A. C. Rice.

The corn worm can be controled to a certain extent by dusting dry Paris green into the tassle end of each ear, when the silk is well out. The millers lay their eggs in the "silk" of the ear and when the young worms are first hatch out they eat the
they reach the grains of corn. When once in, there is no remedy except opening the husk and picking them out. That is not practicable, besides it destroys the upper end of the ears.

The refuse from wine grape presses (the pomace) is of little value as a fertilizer, because it does not contain largely of the elements of fertilization that are usually deficient in soils. It is hardly worth paying anything for, but can be used profitably as a fertilizer on the premises as it has to be removed from the vicinity of the presses, and can be scattered in the vineyard or field at that time.

* * *

TOMATO WORM.

Editor Cultivator:—What is the large green worm which is found in tomatoes? I am told that it is the same as is found in green corn.—E. Smith, Whittier.

The large green worm that is often found eating the vines is different from the corn worm. There is a worm that is occasionally found eating the fruit of the tomato, but they are usually confined to the early crop and do very little damage. They are the same as the corn worm. The large green worm that eats the vines belongs to the same species as the Eastern tobacco worm. They are the larvae of the sphinx moth. They are never very numerous but a few of them will do much damage. Close watching early in the season with the removal of all infested tomatoes and large green worms that are on the vines, will prevent any material damage during the balance of the season.

* * *

GRAPE BUDS FAILED.

Editor Cultivator:—I have been studying Bulletin No. 146 on New Methods of Grafting and Budding Vines, and have failed to have any success. I thought probably it was not the right time of year and as the bulletin does not mention the time of year, I would like to know all about that. I suppose my failure was due to the fact that I did it at the wrong time.—Wm. H. Overholtzer.

The bulletin does not state any particular time of the year in which to do the work, but gives accurate directions as to the condition in which the stock should be when budded. The buds should be inserted when the stock is still flexible. At that time a slit can be made lengthwise with the branch and if the bark is loosened along the edge of the slit, the bark will separate readily and bulge out if the branch if properly bent at that point. The buds should be from succulent growth. After they have been inserted and the branch straightened and wrapped with waxed cloth, fully 90 per cent of the buds should grow. When old vines are to be budded to new varieties, the budding must be done in a hurry if many vines are to be worked over, as the buds must be inserted at a point about two leaves from the tips of the new vines. If the work is left till the vines grow out longer, the buds will have to be put out from the stock a corresponding distance, which will make a head that will be too high. When it is desired to bud onto resistant vines for nursery cuttings, the process can be continued all summer long. When old vines are to be budded, different varieties may have to be budded at different times, because some varieties start out earlier than others. For these reasons, no date is given in the bulletin for doing the work.

* * *

SONOMA APPLE.

Editor Cultivator:—In Bulletin No. 147 from Berkeley, June, 1902, page 71, mention is made of an apple, "Sonoma." The report says that it is a strong grower and a good bearer. Will you please tell me whether it is a winter apple or not, its color and quality, and if it is the same as the "Gold Ridge Winter."—J. B. Wolfskill.

Sonoma is a late fall apple with us, but under proper conditions would be a winter apple. It has water core with us, consequently will not keep well. It is not very good quality. It cannot compare with the Missouri Pippin, which is not as fine as our Yellow Newton Pippins or White Winter Pearmain. Sonoma is barrel shaped with the calyx cavity often so shallow that it is on the level with the regular surface of the apple. The skin is a dirty yellow, streaked with brown. I do not know the Gold Ridge Winter by that name.

* * *

CURL LEAF OF PEACH.

Editor Cultivator:—What is the cause and cure for curl leaf on the peach?—H. P. Hudson, Escondido.

Curl leaf on peach trees is caused by a fungus. The disease will denude some varieties of peaches of leaves and fruit early in the season. The past spring was most favorable to curl leaf, it being moist and cool during the months when curl leaf is most active. Some varieties are so susceptible that not a single leaf will remain free from the curl, while every peach will be dropped. Other varieties in an adjoining row will remain perfectly immune. Briggs Red May, Hales Early, Tuscan Cling and Yellow Tuscany are always free from it.

The remedy is to spray with Bordeaux mixture. Two sprayings had better be made, one early in the winter and one late, just before the blossoms open. If the trees are infested with scale, lime, sulphur and salt spray can be used as late in the winter as possible, just as the blossoms open. By adding 10 pounds of blue-stone to every 100 gallons of lime, salt and sulphur wash, there will be little if any curl leaf. The above wash is very troublesome to make, and if only fungus troubles affect your trees, Bordeaux mixture is more desirable; it requires no cooking and after the blue-stone is dissolved can be made in a few minutes; 4 lbs. of blue-stone, 4 lbs. of lime and 40 gallons of water make the right proportion. It is best to make the 4 lbs. of lime up to 20 gallons, the blue-stone the same and mix the two while being stirred vigorously. If concentrated solutions are mixed and water added afterward, there will be a heavy percipitate of the lime and blue-stone which will injure the efficiency of the spray.

* * *

ALLIGATOR PEARS AND CUSTARD APPLES.

Editor Cultivator:—What is the best place for Alligator pear trees and the Custard apple or Cheroimyer. What treatment should they have in this climate?—B., Glendale.

The best place for those two fruits is where there is no frost and a good supply of moisture. They are natives of the tropics and tropical conditions must prevail is any degree of success is to be expected. A light frost will not injure the trees, but if it gets down to freezing, those fruits will never reach maturity. There are certain small areas along the foothills in some of the valleys in which those fruits mature. We are told, however, that they do not approach in quality the fruit that is grown in the tropics.

The trees do not require any different treatment than the orange. They like good soil and plenty of moisture.

TRIMMING DEWBERRY.

Editor Cultivator:—When the fruit of the Gardena Dewberry has been gathered, should we cut all growth clean to the ground, or simply cut the old canes, leaving the new growth for next year's crop?—J. M. S., Otay.

This question was submitted to W. M. Gray, the original "Gray's Gardena Dewberry" man, and he gives us the following:

The old and the new growth should all be cut clean to the ground as soon as the crop is taken off. After this date, August 8, I would leave the new growth and cut out all old wood. But if taken early, the removal of all old and new wood destroys nearly all scale.

The wool growers of Tulare County held a meeting last week in which they appointed delegates to go before the commissioner of forest reserves and demonstrate that sheep in the mountains do no damage to the forest.

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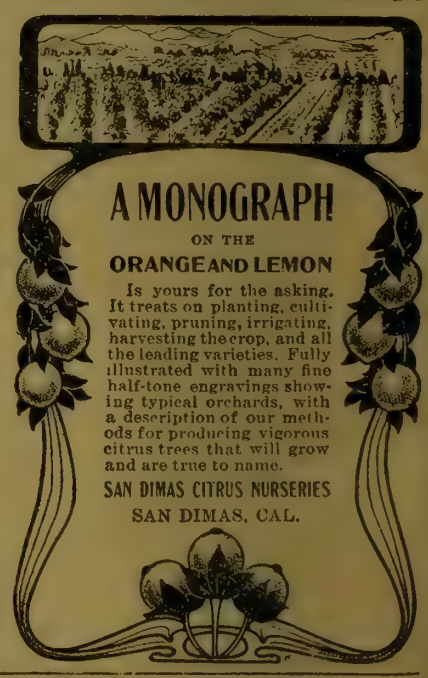

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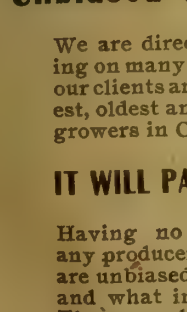

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE CAL.

SEASIDE PLANTING.

While seaside residents are asking what best to plant in their yards, the observant gardener cannot but wonder why they do not use their eyes instead of making so many inquiries. While at the Long Beach Institute the writer was asked by several about trees for such localities. First comes our native cypress (Cupressus macrocarpa), commonly called "Monterey Cypress" This seems to do well everywhere, and on the coast grows a sturdier form than inland At Terminal Island there are many fine specimens, as there is of several species of acacias, too. Of the latter trees the ones known as A. cyanophylla and A. saligna seem to endure the best, though A. melanoxylon appears to thrive very well close to the water. The common "Blue Gum" and many other eucalypts are excellent, and more species of both euclypts and acacias should be tried.

* * *

APPROPRIATE PLANTING.

Sometimes people go to the other extreme than noted in the above article and plant indiscriminately, without considering locations, climates, soils nor the many other matters to be taken into consideration. The greatest mistakes are made when carrying out extensive plans for "improving" a landscape of considerable area.

Hillsides already covered with fine native shrubs are denuded to make room for introductions from foreign countries that are never so well suited to either soil or climate. Then, too, the same trees are planted solidly at all altitudes and over both hill and dale. Now, nature distributes her vegetation in zones and certain plants reach certain heights and then the hillside covering changes to something else, and so on to the summit. So too, do different trees and shrubs grow in the canyons than on the open hills.

Nature should be aided in her efforts to give us a diversified topography and for this reason canyon floors should be left unplanted with anything tall and in considerable numbers and the surrounding hills should be freely covered. In this manner the hills are made to appear taller and the canyons deeper. Too many plant in the canyons only, because it is hard to start a tree or shrub growth on the hills. If so planted, when the trees attain the same height as the hills on either side, no canyon will appear if viewed from half a mile or more away. Not all (or any, for that matter) hillsides are covered with a solid growth of any one tree or shrub and it is the height of folly to attempt to beautify slopes by such planting. If natually bare, an improvement there certainly will be, but the results will never be really beautiful or harmonize with the landscape. Open glades and masses of native shrubs would vary the otherwise monotonous mass and make an easy transition from the "improvements" to the natural scenery.

* * *

OUR SCARLET LARKSPUR.

Larkspurs are usually from white to dark blue in color, but we have one in Southern California that is a most brilliant scarlet. It is tall growing species, often attaining a height of seven or eight feet, and flowers abundantly. It does not seem to be particular about either soil or location so long as the soil is well drained. It may be found in the hot, dry sand of a southern exposure as well as in the shade of dense underbrush on the north slopes of hills, with pure leaf mold for soil. Its roots are perennial so that once established it will be with you always. Altogether it is one of our most handsome natives and should be in every garden. Those who live near its native habitat should mark its place while in flower and dig the roots at any time from the present to early spring. If dug now they should be packed away in dry sand or soil, in a cool, dry place, and planted out very early in the spring. While at the Long Beach Institute the writer offered free seeds of this flower to all furnishing a self addressed and stamped envelope. Many envelopes were handed in and every day since has brought requests by mail. Plenty of the seeds are yet on hand and the offer is still open to Cultivator subscribers.

* * *

BUILDING SITES.

Now that magnificent country homes are springing up all over our favored land, more attention should be paid to building sites. No amount of skill on the part of the landscapist can overcome great natural defects though they may be lessened if sufficient means are at hand in the shape of "current coin of the realm." A site may command a truly magnificent view in all directions and yet be so void of landscape possibilities as to be totally unfit for a home. At all times a house should be placed where it will look best, if such a place be easy of access; if too hard of approach or forced into an unnatural position, it is merely a house—not a home.

FARM ORGANIZATION.

(Continued from first page)

the common interests of the state? *

* * * *

What, now, does experience teach us as to our influence in legislation? One man may sometimes do much for us. We are thankful that we have such men. Our present Governor has done good work for us. All honor to him. He himself says we should remember one of our own representatives who stood up squarely and fought manfully for our interests and for righteousness, and we will remember him. He is here today, and we will honor him. But how little can one man do, in proportion to a close form of organization whereby our strength becomes concentrated as the strength of one man, and our strength is counted in voters. * * * *

III. You have already anticipated me in the desire to turn from the material side of this question to the intellectual and social side. We must have a living. We need a fair measure of prosperity. But prosperity is not everything. It alone does not insure happiness or well-being. It is a well-known fact that farmers and especially farmers' wives are more subject to mental disorders than any other class. This is because isolation, lack of variety, and of mental occupation. It should not, and need not be. With proper ideals it could not be. Let us have organization and stated gatherings of men and women at no infrequent periods, and let us attend them as religiously as we attend our meals, our sleep and our daily duties, and the routine will be broken up. Fresh thoughts will stimulate us to do thinking ourselves. Our minds will be active and inventive. * * * *

I trust I have made clear these among the many reasons why we should organize, viz., for the sake of economy of production, economy of handling, economy of transportation, and economy of marketing for the securing of proper legislation, state and national, for the promotion of the intellectual and social life. * * * * * *

No farmer, and no farmer's family can afford not to belong to a farmers' club. No extensive rancher will stay away from these meetings if for naught else than from pure business consideration. * * * *

How much less can the smaller rancher, whose success is utterly dependent on the most minute details in all his work, disregard these opportunities for gaining practical knowledge. How much more, too, does the smaller rancher, who as a rule has less of time and less of literature at command, need the intellectual and social stimulus of these meetings.

IV. You ask when is the best time to organize. I reply now. The quicker the better. There is always time for so important a matter even in the busiest season. Organize now. If not in the day time, in the evening. Meet whenever it is most convenient to the greatest number. Meet in the different homes. Let your meetings bring light and joy and helpfulness into many homes, as they sweetly will into all hearts.

The Pomona sewer farm reports its first year as a profitable one.

BEE SUPPLIES—G. G. Wickson & CO 123 N. Main Street, Los Angeles, Cal.

The Champion reports that the beet harvest which began Saturday at Chino will be light for several days. The bulk of delivery thus far having come from the outside districts. Samples so far tested are showing sugar content 15 to 18 per cent.

Scott's Wax A SURE CURE FOR **Gum Disease**

Made after the formula of Mr. John Scott, late Horticultural Commissioner, by

S. M. WOODBRIDGE, Ph. D., So. Pasadena, Cal.

DIRECTIONS—Cut away the diseased parts of the tree, allow to dry, and apply melted wax with a brush.

East Main Street Pottery Works

Ollas, Vases and artistic Pottery, and Pottery for Floral Plants. Fancy Hanging Baskets and Wall Baskets, Etc., Rose Propagating pots a specialty.

2009 EAST MAIN ST.

Opp. East Los Angeles Brewery Co. Near Avenue 20

TELEPHONE EAST 365

LOS ANGELES, CAL.

Take East Lake Park Street Car.....

Citrus Stock

A FINE LOT

FOR NAVELS VALENCIA NAVELENCIA LEMONS **1903**

MILLS & MASTERS

J. MILLS, MANAGER

RIVERSIDE, CALIFORNIA

The Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,

Station K, **LOS ANGELES, Cal.**

INSURANCE AT COST

We are furnishing Insurance to the farmers of Los Angeles county that is

Safe, Sound and Conservative

Over 2,000 farm buildings in this county are covered by policies in our company, at a cost, during the past four years of only 5 cents per hundred dollars per year. Why pay big salaaies and dividends to eastern officers and stockholders? Before your present policy expires drop us a postal card and we will send you full information of the mutual plan.

LOS ANGELES COUNTY FARMERS MUTUAL FIRE ASS'N

Chartered by the State

G. F. CROMER, Secy.

207 Currier Bldg. Los Angeles, Cal.

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

CHRONIC DIARRHOEA.

Editor Cultivator: I have a mare in ordinary condition, but is loose in bowels, especially when driving. Other horses treated as she is are all right. What can I do to relieve her.—J. P. S., Garvanza.

Experiment on different kinds of feed until you get something that suits her. Water at least one hour before driving and start off gently. Take of tannic acid, one ounce; bicarbonate of soda, eight ounces; mix and give one heaping tablespoonful in the feed three times a day.

* * *

FOUNDER.

Editor Cultivator: Cow became lame about six weeks ago in front right foot and leg. This extended up to shoulder. No swelling. First noticed her lagging behind when driven to pasture. Now weak in both legs with soreness in back. Flinches when pressed just forward of hip bones. Run down and weak though appetite is good and holds usual flow of milk. Feed on green peas, oats and alfalfa, and has dry grass and clover hay.—E. Pedrotte, Waddington, Cal.

This condition is caused by abundance of rich food. Allow the cow to have access to some clean threshed wheat straw. Give a purgative and follow this in few days by a tablespoonful of equal parts of potassium nitrate and sodium hyposulphite in the feed twice a day.

* * *

ULCER OF BACK.

Dr. Fenimore: Please give me remedy for my horse; he has an old sore on his back from the harness. It is about as big as a quarter and always forms a crust and underneath it is sore and contains pus. I am a subscriber to the Cultivator since May, 1902, and find it a great help to the farmer or in my case to the man that is a beginner on the farm.—Max Fischer, Santa Rosa.

Clean the wound up, remove all scabs, dead tissue and foreign material. Then apply Squibbs compound alum powder; keep covered with this all the time, and keep harness off of it.

* * *

ECZEMA OF DOG.

Dr. H. D. Fenimore: My Scotch Collie was troubled by what I think was the mange two months ago. I washed him with solution of creoline, gave him castor oil and he got well, but his hair got very thin. Now the trouble has returned. He is pink on the belly and sides, and itches a good deal. Seems well otherwise, lively, has good appetite. Lately has a swelling, size of dollar, on left side of head, under ear. If you can reply through the Cultivator I will be indebted.—E. A. Moore, Redlands.

Repeat the treatment that you cured him with the first time. Give one teaspoonful of the following three times a day after meals: Tinct. nux vomica, ½ dram, Tinct. gentian comp. 3 drams; syrup of cascara sagrada, sufficient to make 4 ounces.

In last week's Cultivator in giving formula for powder for horse with eczema we made error in placing comma in wrong place, so we give corrected formula this week. It should have read:

Give an aloes ball composed of Barbadoes aloes 1 oz., nux vomica, belladonna and ginger, each 1 dram. After that has acted mix eight ounces each of potassium nitrate and hyposulphite of soda and give one tablespoonful in the feed three times a day. Keep the itchy places well shampooed with creoline.

It is not enough to be industrious, so are the ants. What are you industrious about?—Thoreau .

BEE SUPPLIES—G. G. Wickson & Co., 128 N. Main Street. Los Angeles, Cal.

DAIRY AND LIVE STOCK

C. H. SESSIONS, ASSOCIATE EDITOR

CARE OF THE HERD.

It is a wrong idea to believe that a cow testing 5 per cent is a good cow. The cow that gives the most butter fat within a year is the most profitable cow, no matter what her test is. Don't get the idea that a certain breed is the only and best breed. A good cow is a good cow, no matter to what breed she belongs. Select the breed you like best and which is best adapted to your circumstances, and cows that milk ten to eleven months during the year; also they may have only a fair average test.

Important points that a dairyman must keep in mind, are:

1. The bull is half the herd.
2. Raise the calves from your best cows.
3. Sell all your poor cows.
4. Keep your herds in a healthy condition.
5. Feed and milk regularly.
6. Feed only wholesome food and look carefully to the drinking water.
7. Poor food and dirty water give tainted milk and impair the health of the cow.
8. Keep your calves growing.
9. Don't feed warm milk one day and cold the next.
10. If you want a good dairy cow from your calf, get a good, long body with well sprung ribs on your calf.
11. The coat of an animal is a good indication of its condition.
12. Try to have your cows "come in" in fall and winter. Winter dairying pays the best; besides, you have more time to milk in winter than in summer.
13. Try to raise all the hay for your herd.
14. Make the most out of skim milk.
15. Dairying and hog raising are a very good combination.

WORLD'S FAIR LIVE STOCK NEWS.

The National Polled Hereford Breeders' Association is among the breeders' associations making appropriations for special prizes at the World's Fair.

The National White Wyandotte Club will hold its 1904 annual meeting at St. Louis during the World's Fair.

The Club will make liberal provision for World's Fair specia. poultry prizes for that variety.

The American Association of Live Stock Herd Book Secretaries will hold its annual meeting at the World's Fair grounds and at the Southern hotel, St. Louis, August 12 and 13.

The Kentucky Exhibit Association, which has in charge World's Fair matters pertaining to that state, has sent notices to Kentucky breeders and fanciers that the Association will pay the entire expense of sending their stock to St. Louis next year.

Through the advocacy of Chief F. D. Coburn of the Department of Live Stock at the World's Fair, in the face of considerable opposition from some sources, the butter made there next year during the proposed cow demonstration will be judged by giving a possible credit of 15 points in a total score of 100 to "aroma" and 30 to "flavor," instead of ignoring the element of smell or aroma and giving a possible 45 points to flavor alone.

KEEP HENS BUSY.

Loose or shut up hens should be kept busy. Nothing is so miserable as an idle hen, so confined that she cannot interest herself in anything but walking about a filthy, cheerless yard, peering through the slats at the grass she cannot eat, the bug and worm haunted places she cannot explore. No miserable animal ever did its best, or, as a rule did anything above paying for the cost of existence, and few do that. The least that can be done with a shut up hen is to keep her busy and interested in a variety of things thrown in.

"I went to the play last night," said Farmer Begosh, "an' I tell ye it was mighty fine. One of the fellers was a Farmers' Alliance man." "How do you know, Silas?" said his wife. "Because he kep' a-hollerin' every oncet in a while, 'What hoe, without there!'"—Washington Star.

The new-born calf should have its mother's milk, not that of a stripper. It should not suck long. I prefer the calf removed the first day. Give it its mother's milk for the first week, after which skim milk may be added. At the end of the second week a little ground corn may be added. Ground oats are good, but I like ground flaxseed best; mix it with corn before grinding, as it is very sticky to grind alone. I prefer it fed raw.

"You know, Dorothy, these biscuits of yours," he began, as he reached across the breakfast table, and helped himself to the seventh. "Yes?" said his wife, with a weary, feeble smile. "Ah! they're nothing like Mother's." "No?" And the smile was gone. "No. Not a bit. You see, Mother's were heavy and gave me dyspepsia while yours are as light as a feather, and I can eat about—why, what's the matter, Dorothy?" She had fainted.—Kate Field's Washington.

WANTED Twelve—more or less —high grade **JERSEYS** from this county or adjoining counties. Must be strictly good individuals.
W. M. MARCH
1798 W. 39th St. Los Angeles, Cal.

THOROUGHBRED POLAND CHINAS
Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons, KINGSBURG, CAL.

THOROUGHBRED BERKSHIRE HOGS
FOR SALE
GEO. C. ROEDING, FRESNO, CAL

F. A. MEACHAM
BREEDER AND IMPORTER OF
RED POLLED CATTLE
SHROPSHIRE AND
AMERICAN MERINO SHEEP
Both Sexes For Sale
Live Oak Ranch PETALUMA, CAL

SLEEPY HOLLOW HERD OF HOLSTEIN CATTLE
We have just received from the Eastern States two carloads of officially tested cows. This has overcrowded us for the present, and to make room we are offering some excellent young cows for sale. They are all in calf to our great herd bulls, and right now are in fine condition to ship. For full particulars write
R. M. HOTALING
Rialto Building San Francisco, Cal.

TO FARMERS, STOCKMEN, DAIRYMEN:
SUGAR BEET PULP (Kow-Sauer-Kraut) also **MOLASSES** FOR SALE

"KOW-SAUER-KRAUT" 50 cents per ton F. O. B. cars fresh from factory. Conceded to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.
MOLASSES, 75 cents per barrel. Consists almost entirely of carbohydrates. (sugars) cheapest and best food for fattening stock of all kinds. Send for testimonials regarding feeding value of molasses for **working horses, fattening cattle** and **growing pigs** and **calves.**
Los Alamitos Sugar Co., Los Alamitos, Cal.

THERE'S MONEY IN COWS
IF YOUR DAIRY IS EQUIPPED WITH A
De Laval Cream Separator
and every other apparatus that a dairy requires.
Experienced Dairymen will use no other Separator than the De Laval.
We carry the most complete line of Dairy apparatus and supplies on the Pacific Coast.
Write for new catalogue.
DE LAVAL DAIRY SUPPLY CO.
Portland, Or. 65 Front Street | San Francisco 9-11 Drumm St.

U. S. CREAM SEPARATOR
EXCELS EVERYTHING AT THE KANSAS STATE COLLECE
Read carefully Press Bulletin No. 123, issued May 26, 1903.
The U. S. Separator excelled the five other separators in the competition, but we refer to one only in this space, viz: our "would-be competitors."

DeLaval average test of skimmilk,	.048
U. S. " " "	.033
U. S. excels DeLaval,	.015

This shows that the DeLaval Separator left 45 per cent. more butter-fat in the skimmed milk than the U. S.
These tests substantiate former records and are continued proofs that
The U. S. is the most thorough skimmer in the world.
VERMONT FARM MACHINE CO., Bellows Falls, Vt.
319

FOR SALE
YOUNG HOLSTEIN BULLS
Percheron Brood Mares and Stallions all Registered. Write or call.
Minnewawa Stock Farm, Fresno, Cal.

CREAMERY SUPPLIES
Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines & Boilers — Milk Coolers
Apiary Supplies
Creamery and Dairy Supplies and Machinery of all Styles and Sizes
Send List of Goods Wanted and we will Quote Prices
G. G. WICKSON & CO.
123 N. Main St., Los Angeles, Cal.
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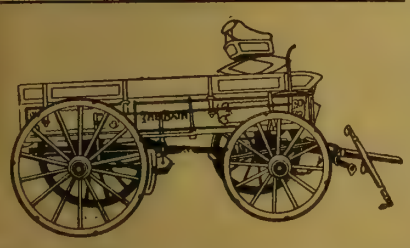

The Most Substantial
and trustworthy wagon is what you want, isn't it? If that's what you're looking for, you want a
BAIN
They are built for business from the ground up. The material is the best, and it's properly put together by a factory of over 50 years' standing.
Baker & Hamilton
Wholesale and Retail
130-136 N. LOS ANGELES ST.
LOS ANGELES, CAL.
Sacramento San Francisco New York

Removal Notice
OF
The Cutter Analytic Laboratory
On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from Fresno to Berkeley.
Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is
The Cutter Analytic Laboratory
Rialto Building, San Francisco
OUR SPECIALTY IS
CUTTER'S BLACK LEG VACCINE
If your druggist does not stock our products, order direct form us. We pay all transportation charges

The "Cultivator" has taken some pains to get information as to the worth of beet pulp and molasses as a feed for fattening stock, because some have questioned its advisability, even going so far as to say that calves have been killed by feeding on this material, but after some little inquiry among those who have observed results, we must say that it is entirely healthy, and that no harm comes from feeding it to stock, also that it is a cheap and effective food, if it is fed intelligently. It is said to be especially valueable for pigs and calves, keeping them plump and healthy at a very low cost. Bulletin 125 issued by the department of agriculture says that molasses was used for horses as early as 1830, usually being sprinkled on dry food, first being diluted with water. At first the feed is very limited but it sometimes increases as high as thirty pounds molasses per head, but the ration usually adopted is 15 pounds molasses, 5 pounds bran, and 4 pounds corn. The bulletin estimated that this saves $45 per year per head over the ordinary fee for horses. One owner of horses who has used it more or less liberally says: "So far as I have tried it, it is all right. It takes a little time to get onto the feed—should commence light and gradually increase the molasses until they are started. Have fed in working, a part of the team on molasses and hay and the other part of the same team on hay and grain, and I do not see any difference in the condition of the animals at the end of the work. Poor stock gained much faster and shed off quicker and cleaner than on any other feed I have ever fed.

THOROUGHBRED FLOCK.

I believe every farmer, especially the small farmer, should study the possibilities in his poultry yard. Too many do not give it a thought, think it beneath their dignity or have larger ideas, so leave the poultry question all to the womenfolks.

My experience is: There is nothing pays better on the farm than a good thoroughbred flock of fowls. It pays to have a standard breed of some of the popular varieties.

And I would advise keeping only one breed, studying their characteristics and making a specialty of them.

In this way you come to know their possibilities and can feed and care for them intelligently, whereas, if you have several breeds, or a mongrel flock, there is nothing uniform, and it is impossible to grade the conditions of care, feed, etc., to the best interest of each individual fowl.

Some people do not succeed because they scatter their thoughts and energies too much, or are continually changing from one thing to another.

This is quite apt to be the case with the farmer; it is so easy and natural for him to have too many irons in the fire, in fact, there is no occupation I can think of that has so great a diversity of thought and action.

However, I believe it pays to concentrate our thoughts and energies as much as possible, and make a specialty of something, (we have chosen poultry for ours).

There is always a demand for fancy poultry and eggs at paying prices, and during some part of each year a fancy price is easily obtained.—Ex.

The Native was at the ticket window of a railroad down South, and the smart clerk was champing his bit inside because the native was so exasperatingly deliberate. "How far is it to Wahoo?" he drawled. "Forty-eight miles," snapped the clerk. "What's the price of a ticket?" "One fifty." The native began to go through his pocketbook slowly. "Come, come, hurry up, urged the clerk; "time's money on this road." "Is it?" drawled the native, laying down the price very carefully. "Yes it is." "Well," he said, hauling out the ticket; "if it doesn't make any better money than it does time, I reckon some of you is goin' to get arrested for counterfeitin' one of these days;" and he moved away, dragging his heels on the floor at every step.—Detroit Free Press.

Courtesy is to business and society what oil is to machinery. It makes things run smoothly, for it eliminates the jar and the friction and the nerve-racking noise.

BEE SUPPLIES—G. G. Wickson & Co, 123 N. Main Street, Los Angeles, Cal.

DAIRY NOTES.

The Madera skimming station has been closed.

A movement is on foot to establish a creamery at Westport, Stanislaus county. It will cost about $6,000.

The Hollister creamery has declared a dividend of ten per cent on its stock.

M. R. Williams of Beaumont has moved to Monrovia, bringing with him several head of pure bred, registered Jerseys, and last week added to his herd by buying three registered Jersey heifers from A. B. White.

Wright Bros. of Byonia are building 30-foot silos and have purchased from Wickson & Co. a feed cutter and carrier. They have over 100 cows in their dairy.

The report of the Ferndale creamery Company (Humboldt County) for the first seven months of this year a total sale of butter of 92,676 pounds at an average of nearly 27 cents per pound. The monthly production and the price is as follows:

January 2394 pounds, 32 cents; February 1671 pounds, 31½ cents; March 8873 pounds, 25½ cents; April 17,387 pounds, 22 cents; May 21,445 pounds, 24½ cents; June 20,742 pounds, 26 cents; July 20,164 pounds at an average of 26 cents. There are about six hundred cows which contribute to the creamery.

The Excelsior Creamery (Co-operative) of Ferndale, Humboldt Co., reports as follows: Gross shipments of butter: January 6114 pounds; February 5541 pounds; March 21,253 pounds; April 40,594 pounds; May 47,889 pounds; June 44,261 pounds. There are thirty-six patrons of the creamery with 1400 cows. The average price for March was 24.92 cents, April 21.41 cents; May 23.45 cents; June 24.63 cents.

POINTS FOR BUTTER MAKERS.

Hot water poured into dirty milk vessels cooks the cheesy matter and makes it gum and stick.

Rinse all vessels with cold water before scalding or steaming. This is more necessary in washing woodenware, such as churns and trays than in treating tin surfaces.

Accuracy in dealing with temperatures and cleanliness in handling milk and milk vessels will alone secure a high quality in butter or cheese. This seems so simple that many people will never try to understand how or why this is true.

In salting butter, do not salt it to suit your own taste. Be satisfied if it pleases the purchaser's palate. Make him want your butter so bad that he will part with 30 or 35 cents for every pound you send him. Much depends upon the salting of butter. Very soft butter should be highly salted to cover its many defects. Salt, like charity, covers a multitude of short-comings.—Dairy and Produce Review.

SURE:

We note the following in the Farmers' Advocate, which it says it received from a Missouri lady. We don't doubt it is a sure cure for caked bag, at the same time we would like a report from Prof. Majors of the State University as to his idea of its efficiency: "If your Cow's bag is caked Jist take a sand rock be careful and notice how it is lying on groond and take it and rub the cows bag good With the side of the stone that was down on the groond and then put it back Jist as it was in 24 hours the Cake will be all ought. I know this to be good try them. If I see this in print I Will come agin."

Every man, woman and child who has anything to do with the work of churn, ladle, package, cloth and should be cleanly and neat. Uncleanliness is the rock upon which thousands go down. It is possible to do some things in a slovenly manner and yet succeed fairly well. This is not true in buttermaking. Every pail, can, formula for powder for horse with worker must be scrupulously free from anything which will impart a taint to the finished product. The hands especially must be clean.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA
An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.
C. W. LEFFINGWELL, JR., Sec'y., Whittier, Calif.

Ramona Herd
REGISTERED JERSEY CATTLE
Geo. W. Thomas, Riverside, Cal.

FOR SALE
Gold Drop's Gladys, 170236. Sire, Sunmaid's Gold Drop, 34272. Dam, Lotty's Gene, 117516. Dropped Jan 4, 1901. Price $100. W. Jay Cole, Anaheim, Orange Co., Cal.

MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

G. Y. Lytle
HIGH GRADE, STANDARD BRED JERSEYS
2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
GEO. Y. COUTTS Orange, Cal.

LEMONITA HERD
Leffingwell Rancho, Whittier, Cal.
Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
Terms reasonable. Liberal reductions to those coming from a distance.
No charge for service on cows having authenticated fat or butter records.

Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
E. E. MOORE, Compton, Cal.

Venadera Herd
OF REGISTERED JERSEYS.
Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices
GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT Station B, Los Angeles

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.

JERSEY BULLS OF ALL AGES
FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY - DUARTE, CALIF.

TWO THOUSAND POUNDS A MINUTE

A. R. Coulson Tells About the New Mixing Machine and Why It Had to Be Built.

The large mixing machine recently completed is something new and it took a long time and lots of expense to make it work. This is the best mixing machine on the Pacific Coast, and it works so well that no doubt that many of the other mills will copy after it.

This electric machine will mix a ton of feed in less than a minute, more evenly and thoroughly than a man with a shovel could mix it in half a day.

Although this great machine cost nearly $1000, it will make a great saving in labor which will make up for the cost of the machine in a few months. Where it cost $1 a ton to mix feed by hand labor this machine will mix it at a cost of 25c a ton.

It was absolutely necessary to have this machine, no matter what it cost, because the trade on balanced rations for poultry and stock was increasing so fast that they could not be made fast enough with six men working by hand labor. Besides, a machine like this one mixes it more thoroughly and satisfactorily than could be accomplished otherwise.

My enterprise is bringing me success. Not only am I successful myself, but those who follow my directions and use my poultry foods are successful too.

This is shown by the ever increasing trade on my balanced rations for poultry.

C. J. McCarthy says he has made more money out of his hens since he has been feeding Coulson's food for laying hens than ever before. He is well satisfied with Coulson's balanced rations for poultry.

D. H. Ward of Cotati has been feeding Coulson's balanced rations for about a year, and has had such splendid success and made his hens pay so well that many of the other poultrymen have gone to him to find out what he feeds to make the hens do so well. Mr. Ward recommends Coulson's balanced ration for poultry.

E. D. Callon of Fallon, who has about 5000 head of poultry, has used a number of tons of Coulson's' poultry foods and recommends it to be all right.

Geo. W. Gaston of Two Rock has 2500 laying hens which are paying him well. Mr. Gaston has fed about 300 sacks of Coulson's balanced rations for poultry and recommends it to be all right.

A. M. Shread, assistant postmaster at Jacksonville, San Joaquin county, writes: After having used Coulson's balanced ration for poultry I wish to say that it is all that it is recommended to be, and that really it is the best food that one can feed, and it is quite a saving on other food stuff, as it is richer and gives better results."

D. F. Colley at Downey, Los Angeles county, when sending for another ton of Coulson's egg food for laying hens, writes: "My hens are doing well now and I think Coulson's food is what makes them lay so, and I do not want to get out of it. The hens like it and it don't take much to fill them up, as it is a richer food. It costs me 50 cents a sack freight so make the price as cheap as possible."

L. J. Howell at Hollister has used over 100 sacks of Coulson's poultry foods and his hens are laying an average of 60 per cent, that is 60 eggs a day for each 100 hens.

Miss K. L. Richardson, an enterprising young lady at Malaga, four miles from Fresno, is making her poultry venture a success. Miss Richardson has ordered over 200 sacks of Coulson's balanced rations for poultry during the last four months.

S. W. Morgan, a breeder of fancy poultry near San Diego, has a supply of Coulson's poultry foods shipped by steamer every three or four weeks.

Many of the fancy breeders in Ventura and Los Angeles county now feed Coulson's balanced rations for poultry.

Mrs. Riley at Biggs, Butte county, orders ten or twelve sacks of Coulson's egg food at a time to be sent by freight.

Many other parties in Placer county, Toulumne county and Yolo county, order a supply to be sent by freight once a month.

Cnopius & Co., Santa Rosa, write: "Please quote us your lowest price on a full carload of Coulson's balanced ration for hens." This firm has already sold over 1000 sacks of Coulson's food.

Extracts from letters:

"We are entirely out of Coulson's egg food and Coulson's chick food and our customers are howling for it. So please see that our order goes forward at once by first freight."

"Enclosed find check for $168.70 to pay for last shipment of Coulson's egg food."

"Please ship at once to Germain Seed Co. by steamer to Los Angeles, 20 bags of Coulson's balanced ration egg food. There is quite a demand for it."

W. T. Park, of West street, one of Petaluma's progressive poultrymen, proved by actual experiment that Coulson's food for hens would make hens lay and grow feathers at the same time.

He bought from a neighbor a flock of 50 hens which were all run down. Their combs were black and they were a hard looking lot. He put them in a pen by themselves and fed them Coulson's egg and feather food and in two weeks they were all growing new feathers and over half of them were laying. Mr. Park uses Coulson's food right along.

There are hundreds of others that are using Coulson's poultry foods right along and are making a success of it.

Coulson's balanced ration for poultry is now on sale at most up-to-date feed stores, or if not, you can order from factory and have it sent by freight.

Zartman & Co. are building a new advertising wagon for Mr. Coulson. It is to cost about $125 and to have a low top and the inside is to be fitted up with shelves and a door on the end so this wagon inside will look like a little store. Charles Mills will have charge of this wagon and will take a four month's trip down in the southern part of the state as far as Mexico. Another wagon similar to this will be built for the northern country.

If you are not using Coulson's balanced ration, why not give it a trial and make more profit out of your poultry. Coulson's food will be as cheap as any other good feed and it will make your poultry give you double the returns on the cost of feed.

Ask your feed dealer for Coulson's food and don't let them sell you something else which they may say is just as good, because they want to sell you something that they can make more money on.

Remember it is Coulson's that you heard so much about, it is Coulson's that gives such good results, and it is Coulson's food that you want.

Following are a few items at random as samples from my daily mail and given here to show what people think of my poultry foods:

Hollister, Cal., July 1, 1903.

A. R. Coulson. Dear Sir: Please ship to me at your earliest convenience one carload, 350 sacks, Coulson's Egg and Feather Food. R. C. GURY.

The Western Union Telegraph Co.

Salinas, July 15, 1903.

A. R. Coulson, Petaluma, Cal.—Ship to W. J. Fair, Salinas, one carload, 350 sacks, Egg and Feather Food and 25 sacks Chick Food.

CHAS. MILES.

L. S. Butler writes from Los Gatos: "I have used half a ton of Coulson's Egg and Feather Food and like it very well. Will soon want more of it."

John Lants of Sacramento writes: "I have used Coulson's and other kinds of egg food, but Coulson's is the best."

Hollister, Cal., July 11, 1903.

To Whom it May Concern:

I, the undersigned, started to feed Coulson's Egg and Feather Food to 250 chickens which were moulting. At the end of ten days I found that my egg production was increased 50 eggs and am fully satisfied with said food.

H. A. Hall.

Hollister, Cal., July 10, 1903.

To whom it may concern:

I, the undersigned, have fed Coulson's Egg and Feather Food to my flock of poultry consisting of 1000 for six months and can cheerfully recommend the feed to any one raising poultry as a cheaper feed and an egg producing feed. Signed, W. K. Goff.

Calistoga, July 11, 1903.

A. R. Coulson—Dear Sir: Enclosed find $7.75 for which please send by freight 5 sacks more of your Egg and Feather Food for moulting hens. So far I am well pleased with results. Yours respectfully,

MRS. E. BANTA.

Santa Rosa, July 13, 1903.

A. R. Coulson—Dear Sir: I write to tell you I have been using your food for about a year and am well pleased with results. I have been keeping hens for over 20 years and never had them do as well as they have since I have used your food. Yours Respectfully, G. J. CUNNINGHAM,

D H. Ward, one of the most successful poultry raisers at Cotati, has been feeding Coulson's Egg and Feather Food for 1 year and has used about 200 sacks of it. He recommends it to all parties raising poultry as it proves to be the most satisfactory and economical of all feeds. Last winter when eggs were bringing 55 cents a dozen Mr. Ward had 500 laying hens that laid an average of nearly 250 egs a day, and were fed on Coulson's Balanced Ration Egg Food.

C. N. Davis says that by feeding his hens Coulson's Egg Food for two weeks the hens have doubled the egg supply and are moulting too.

$500 IN GOLD.

Hollister, Cal., July 9, 1903.

A. R. Coulson—Dear Sir: I send you today $500 in gold by Wells Fargo Express, money collected for Coulson's Egg Food sold at Hollister. Your respectfully, CHAS. S. MILES.

Haywards, July 22, 1903.

A. R. Coulson—Dear Sir: Enclosed find check in payment for last lot of Egg Food. Please ship at once one carload, 350 sacks, Egg and Feather Food; also 1 dozen packages condition powder, 1 dozen cans Coulson's Disinfectant, 1 dozen 50c bottles of Roup Cure.

The Egg Food is selling well here. It gives good satisfaction and we have quite a demand for it. Yours Respectfully,

Kavanagh, Shuey and Gibson.

(By telegraph.) Malaga, Fresno county, July 24, 1903.

A. R. Coulson: Ship to R. Porter, Malaga, 1 car load Egg Food.

This Feed now for sale by over one hundred stores in California. If your dealer doesn't keep it, write for prices and have it sent to you by freight.

A. R. COULSON

772-774 Main St., Petaluma, Cal. Long Distance Telephone, Black 1303

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

WOMAN'S WORK IN THE POULTRY YARD.

The following was written for a friend who wrote me, "I am glad to see by your letter that you are making strawberry jam and that you are a housekeeper as well as a poultry-keeper." Another writes, "How do you manage your work?" I think as this is purely a woman's chapter on woman's work, we will ask the men readers to skip it, and will describe

A DAY ON THE WHITE PLUME RANCH.

July 24. Rose at 5:15, set the breakfast on, oatmeal mush, shirred eggs, hot rolls, coffee, peaches and comb honey; whilst breakfast was cooking rushed out to feed brooder chicks, nine brooders, two hens and baby turkeys. After breakfast mixed feed for the fowls in the fattening coops, cleaned their feed bowls and watered them; also cleaned up under the coops. Then went to the sitting hens. They are sitting in nine barrels, all in a row in one yard, with a shade of palm branches over them. The moment I entered the yard I saw that two of the hens were sitting "light," almost standing; I knew that meant that the eggs were hatching. Carefully lifting the biddies off, I gathered the ducklings, for these eggs were from Indian Runner ducks, and not due for two days, into my apron, removing the empty egg shells and leaving those that were pipped to hatch by the next day. After filling up the feed box with corn and giving the hens fresh water, I carried the soft little ducklings into the house and proceeded to punch a hole in the web of their tender feet, so I might be sure of their pedigree when they reach maturity. I left them by the kitchen stove in my little maternity box, which has sheltered many a wee chick, duckling, turkey and guinea. It is only a little box with cotton batting at the bottom and a piece of flannel for a cover.

I went out to get the brooder ready, for, as these babies had come sooner than I expected, owing to the heat of the weather, their older brothers were still in the brooder. Although they had no artificial heat they slept in it. After cleaning and sanding it and lighting the lamp, I brought the new babies out and left them safe under the hover to sleep and grow for the first twenty-four hours.

Asking my helper if he were ready to assist me in dusting and fumigating the chicks in three of the colony houses, and finding he could help me in about twenty minutes, I ran in, cleared the breakfast table, washed dishes, gave a hasty sweeping to pantry, kitchen and porch, gave the tiny turkeys a little more food—they require little and often—and commenced a two hours' unpleasant task of looking over and cleaning the three-months-old chickens. Yes, I will confess they had some head lice and occasionally one had even a few yellow lice. It is inexcusable, I know, but if every chick on the place died, I had to leave killing lice to welcome my first little grand-daughter, and every day for the last two weeks has found me loving and admiring the prettiest and best baby girl that I have ever seen. This is for my sisters in the poultry yard!

Killing lice is no fun, but I will describe my way of doing it with chicks ten weeks old or older. I have three good sized packing cases, each capable of holding twenty-five young fowls comfortably. I spread newspapers over the bottom, paint the paper with Lee's lice killer, cover this lightly with straw to prevent the fowls soiling themselves, as mine are white, put them into the box and cover the top with canvass or old carpet. Leave them in for from two to three hours. But as I confessed my chicks had head lice, and as this interesting kind of louse has a habit of burrowing its head into the roots of the feathers, it does not always inhale the deadly vapor. In fact, one man told me he found some of these lice alive on a cockerel that he had the misfortune to suffocate in fumigating with Lee's lice killer. The cockerel succumbed to the fumes, but the lice did not. I have found that by rubbing either "buhach" or "Lambert's Death to Lice" onto the feathers of the head, the lice will come out and drop off, and wishing to make thorough work of it, I took each chick, seventy-five, held it on a newspaper on top of the aforesaid packing case. The powder was in a tin baking powder can with perforated cover. I sprinkled the powder well on the head, rubbing it in, also under the wings and around the vent, and then slipped the chick into the box where it remained from two to three hours, and emerged perfectly free from vermin.

It took me two hours to clean three colony houses of chicks.

Leaving the chicks to fumigate, I ran in, beat up a johnny-cake, set on potatoes and corn to boil, and whilst the dinner was cooking fed the baby turkeys, brooder chicks, took a look at the wee ducklings, visited the sitting hens and gathered in more little ducklings, my helper meanwhile feeding the ten breeding pens of White Plymouth Rocks and all the colony houses, ducks and turkeys.

The noon feed is green clover or alfalfa or lawn clippings, with three times a week green ground bone. Set on dinner, beefsteak, corn and potatoes, sliced cucumbers, johnny-cake and syrup and fruit. The trees in the poultry yards are loaded with great luscious plums or peaches; we and the hens have a liberal supply. The fowls enjoy the shade and take their dust baths under the trees daily.

After dinner let the chicks out of the fumigating boxes, gathered the eggs, washed dishes and straightened up and then instead of my usual nap drove over to see my grand-daughter.

Back in time for evening feed. The evening feed was a mash composed of one bucketful of boiled beans, two of bran, two of cut clover, a handful of salt, two of charcoal. This was for the hens and half-grown chicks. The baby turks had chopped onion, bread crumbs, hard-boiled egg and wheat. The ducks, one part corn meal, two parts bran, two parts cut clover, two handfuls sand.

Fed, gathered the eggs, got supper, cold meat, sliced tomatoes and cucumbers, bread and butter, honey, fruit and tea. Locked up chickens, washed dishes, and finally after dark sat down and answered about a dozen letters before retiring for the night. And so ended a busy, happy day at the White Plume Ranch.

Of course every morning is not spent killing lice, but with every morning comes work of some kind, packing and shipping eggs, crating and shipping fowls, killing and plucking. Then there is housekeeping, putting up fruit and jam and jelly making, pickling and preserving. For several years I supplied a quantity of sweet pickles jams and jellies to the Woman's Exchange, but have not for about a year. I am spending more time with my White Rocks, Indian Runner Ducks, White Holland turkeys and English Runt pigeons. Quite a large family to care for.

POULTRY NOTES.

To appear in a good condition a fowl must be perfectly healthy.

A hen is in her best condition when she is industriously at work.

One advantage, at least, with the poultry business, is that it is not subject to extremes.

JACOB KREGER
Route 1 - Anaheim, Cal.
BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
Eggs and Stock for sale at reasonable prices

White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices. **G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.**

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MIDLAND POULTRY FOOD is the original of prepared balanced rations for fowls; and No. 4 will do more to assist the moult and make eggs than any other known food
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Emery's Pure Meat Meal Emery's "B. B. & B."
Ask your nearest dealer for them and take no imitations.
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

Send Me Four Dollars
And during **JULY** and **AUGUST** will ship to your nearest freight depot, **FREIGHT PREPAID**, the following most necessary articles for poultrymen at this season:
1 100-lb. sack "Henteeth" (the best grit) value $1.50
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1 1-gallon can Black Diamond Lice Killer, " 1.00
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1 package (15 oz.) Insect Powder, value .25
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Eggs—13 for $2.00.
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Only Birds that have
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are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.
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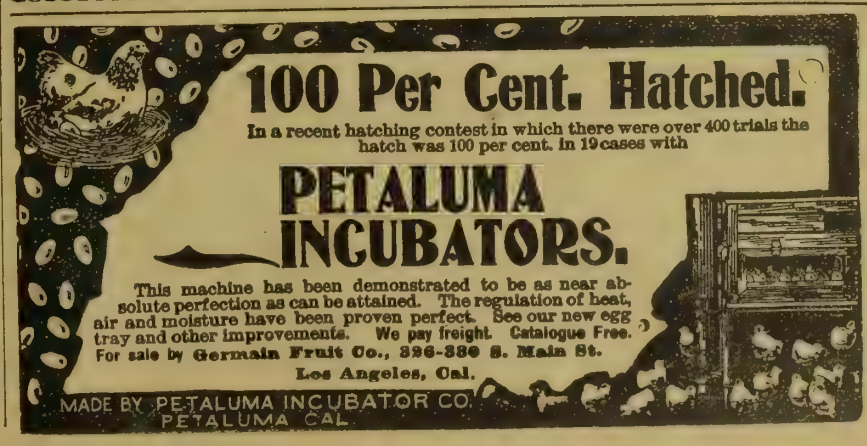

A QUESTION OF BREED.

Editor Cultivator: What months in the year is it most advisable to hatch White Leghorn chickens, with the object in view of having winter eggs and to sell off the hens as fast as they become a year old? Is there any other breed of fowls superior to the white leghorn for this purpose and if so what is it?—N. A. C. Jacinto.

I used to keep white leghorns, standard breed, I found February, March and April the best months for hatching for late fall and winter eggs. I was not satisfied with leghorns, as the hen when her laying days are past (profitably) is too small for table use and I discarded white leghorns for white Plymouth Rocks, which I find more profitable in eggs and for market purposes. They are better winter layers than leghorns and nearly twice the weight when dressed.

[Of course this last question is a disputed one. That is, in Mrs. Basley's hands the White Rocks have proved best. Geo. Albers shows conclusively that the Black Minorca beats the world, under his management. Captain Mitchell of Santa Barbara, cannot decide, so adds to his Barred Rocks three other breeds. Likewise G. Y. Lytle of this city makes a success of White Leghorns and Rocks with White Wyandottes a strong favorite. Jacob Kreger of Anaheim sticks to White Leghorns. Petaluma, the biggest poultry center of the world runs entirely to White Leghorns. These all and many others make great success of their chosen breeds. Some with the same breeds make a failure. This, if, Mrs. Basley will pardon the editor, he would like to add that the breed of stock is not so important as the breed of man or woman who runs the yard. Study your conditions, your market, your needs, then choose the best fowl and make it a success.—Ed.]

* * *

PIGEONS.

Please let me know through the columns of the Cultivator whether wild radish seed will harm pigeons or not, also what is the trouble with pigeons when they become droopy, get awful poor and die, mostly young birds, also a remedy for this.—G. S. B., Watsonville.

The wild radish, raphanus raphanistrum, is not indigenous, but is introduced into California. It belongs to the mustard family, the Cruciferae, which is not poisonous. It may be used sparingly for pigeon and for poultry food.

I cannot diagnose your trouble without more information as to your methods of feeding and your surroundings. Something is radically wrong. The pigeons are not receiving proper care or food are affected with worms or lice and mites. Do they have salt, charcoal, grit? Plenty of fresh or running water? Clean houses? Are they closely inbred?

* * *

SQUABS.

Will you kindly answer for me through the columns of the Cultivator, relative to squabs? Is the raising of squabs for market a safe venture? How about the market for squabs? Is the demand sufficient to guarantee a ready sale?—G. G. McL., Carpinteria.

Mr. Johnson the owner of seventeen thousand pigeons at Los Angeles, the largest pigeon ranch in the world, has had no difficulty in disposing of his squabs, in fact he was not able to supply some of the largest hotels. He gets $3.00 a dozen retail or $2.50 a dozen wholesale. Consequently I infer it would be a safe venture here, but I do not know what your market would be. Personally I found raising the large English Runt pigeons in small numbers exceedingly profitable, mine have raised eight broods per year, and I would advise any one starting to have some of them as the squabs are one third heavier and larger than the common pigeon.

Unclean eggs should be washed or wiped when gathered.

Sand is not a substitute for gravel in the poultry yard. The fowls always select the extra sharp pieces.

Feathers and combs are largely a matter of fancy, but egg laying and chicken raising are matters of business.

Ground floors are best for chickens; hence there is no advantage in building the houses with two stories.—Ex.

THE PLODDER'S PETITION.

Lord, let me not be too content
With life in trifling service spent--
Make me aspire!
When days with petty cares are filled,
Let me with fleeting thoughts be thrilled
of something higher!
Help me to long for mental grace
To struggle with the commonplace
I daily find.
May little deeds not bring to fruit
A crop of little thought to suit
A shriveled mind.
I do not ask for place among
Great thinkers who have taught and sung,
And scorned to bend
Under the trifles of the hour—
I only would not lose the power
To comprehend.
—Helen Gilbert in the Independent.

DO SOMETHING FOR SOMEBODY.

Do something for somebody, somewhere,
While jogging along life's road;
Help some one to carry his burden,
And lighter will grow your load.
Do something for somebody gladly,
'T'will sweeten your every care;
In sharing the sorrows of others,
Your own are less hard to bear.
Do something for somebody, striving
To help where the way seems long;
And the homeless hearts that languish
Cheer up with a little song.
Do something for somebody always,
Whatever may be your creed;—
There's nothing on earth will help you
So much as a kindly deed.

THE OLD SURVEYOR'S STORY.

The time is not so far past as to be beyond the recollection of many persons still living, when the extension of railways through new and sparsely inhabited portions of the country was often bitterly opposed by the settlers. The law which authorized the condemnation of land for "right of way" in case of persistent failure to secure it on terms of ordinary bargain and sale, was largely responsible for this unfriendly attitude. Land owners resented what they considered as an unwarrantable trespass upon their rights in the forcible partition of their acres by the iron bands which should weld their independent freeholds with civilization upon which many of them, with the true spirit of the pioneer, had eagerly turned their backs. It followed that the men who undertook to map out the course of a prospective railroad were often viewed with suspicion or treated with open hostility.

An old surveyor, now in his restful seventies, is fond of relating among other reminiscences of early hardships and exposures, this little story:

"I was never beaten but once; and then by a woman. That was the time I got this pretty mark"—pointing to a deep, white scar beginning just over his left temple and reaching obliquely downward to the edge of the right eyebrow—"to carry about with me all the days of my life."

"We were running the line of a certain road through a cup-shaped valley between two ranges of hills. The rich bottom land was owned by the O'Shales, an Irishman and his wife, who had secured it on a squatter's claim. By rights I should have put the wife first, for this was surely a case where 'the gray mare was the better horse.' Mrs. O'Shale was tall and straight, a powerful figure of a woman, with strong, masculine features, snapping black eyes, and a splendid shock of hair of the same color.

"From the first she was determined that the road should not cross her farm. No other route, however, could possibly be considered, since to go around it meant tunneling through the hills. Considerable time was consumed in vain attempts to effect a conciliation, before the officers of the company in despair determined to take advantage of their legal privileges, and I was directed to proceed with my work.

"Then began a series of annoyances. Our stakes were repeatedly pulled up and their marks obliterated; the packhorses picketed near our camp were mysteriously set loose at night; once a valuable instrument was tampered with. In the end we were forced to detail one of our party as watch while the others slept.

"One morning O'Shale and his son, a well-grown lad of 18, carried their rifles to the field where we were to operate. As we were about scaling the rail fence, the old man called out to us, "Don't come over! If you do, we'll shoot!'

" 'Pshaw! you wouldn't shoot a man in cold blood?' I answered, at the same time throwing a leg over the rail, 'let's talk it over!'

" 'Not a worrd, sorr!" blustered O'Shale, whom, notwithstanding his apparent boldness I knew to be an arrant coward. 'Step yer fut on the ground at yer peril!'

" 'Wait a minute!' I rejoined, following up my advantage with the other leg, while my companions cautiously imitated my example. By dint of continual talk and almost imperceptible advances we finally succeeded in approaching near enough to rush, at a concerted signal, upon the men and disarm them, after which we proceeded with our measurements amid a fusilade of harmless abuse.

"The next day, on returning at evening from a side expedition, we found that our camp had burned. Blankets, supplies, cooking equipage and some papers and instruments were all a heap of smoking ashes. Of course we had no absolute proof of foul play. A spark from our own breakfast fire might possibly have started the blaze, yet we could scarcely doubt that the catastrophe was only another move in the O'Shale campaign of hindrances.

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CHOICE OF 3 ROUTES
EAST AND WEST
"SUNSET" Via El Paso and New Orleans
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"SHASTA"
The service on these trains is perfect. The time is the fastest. The scenery most beautiful. The tourist car service appeals most directly to those who desire to travel at a high rate of speed, but prefer to economize a little on sleeping car accommodations The Southern Pacific runs personally conducted tourist excursions every day in the week at reduced rates to various points in the east, without change, via all routes. A conductor accompanies the train to destination, and is ever ready to attend to the wants of the traveler.
SOUTHERN PACIFIC
261 SOUTH SPRING ST.

"Application at the farm house for temporary shelter and food met with an unqualified refusal.

" 'An' is it milluk ye're wantin'?' cried Mrs O'Shale, barring the doorway with her muscular figure and brandishing a stewpan by way of emphasis. 'Sure, an' it's the nerrve that ye have wid ye! Whin onst ye'd git yer ingines schreechin' acrost the fields, it's not a milluk-givin' crathure that'd be left on the place at all, at all! Didn't me cousin Kelpie tell me as how ivéry one o' her cows wint dry o' fright whin the railroad was opened through the pasture? Bad 'cess to it! An' eggs?? Hear the mon! Cousin Kelpie's Black Spanish fowls, a dozen of 'em, sailed squawkin' over the barnyard fence for all the worrld like a flock of aigles, an' away they went into the woods where the skunks an' the weasles made short work of 'em! An' two o' her suckin' pigs, the innocent craythurs, crawled under the fince an' was run over in the same day, let alone a lamb that straggled through the gap. No, sor! ye can go back fastin' to the place where ye came from, for it's not a bite o vittles that ye'll be gittin' from Bridget O'Shale!' and she banged the door in our faces.

"The situation was serious. A half dozen tired and hungry men, and the next farmhouse five miles away! Suddenly one of us made a fortunate discovery. From the heart of the ash heap was drawn forth a joint of jerked beef roasted to a cinder on the outside, but still containing an eatable remnant within. The tough and blackened morsel was divided into equal portions, with which we were obliged to content ourselves before lying down to sleep on the bare ground. Next morning we set off breakfastless to recruit our supplies.

"But there was more trouble in store for us. Our line must rightly not only bisect the farm but pass directly through the house itself. Here, however, the law in the case was favorable to the occupants. Landed property might be forcibly appropriated and appraised, but an inhabited house was inviolable. At last, after much vexations and expensive delay, the company directed me to yield the point and run a second line on a curve around the cabin.

"This was but just completed, when, almost with the swiftness of Aladdin's castle, a rough shanty rose under Mrs. O'Shale's direction directly upon the new line. She sent for a married son and his wife, and placing them in charge of the homestead, removed her immediate family with a few necessary goods and chattels into the temporary structure and set up housekeeping there.

"This was 'the last straw.' Determining to take the law into my own hands and risk the consequences, I warned my resourceful enemy to move out of the shanty within 24 hours on pain of having it pulled down over her head. This action was all the more necessary since the construction crew was already within a few miles of us. She obstinately and defiantly refused, she declared. 'I've heard tell that an house where I like upon me own land!' she declared. 'I'ce heard tell that an Englishman's house is his castle, an' by the same sign an Irishwoman's is her'n in this free land of Amerikey!'

"She was just bringing a pitcher of water from the spring when I ordered my men to begin the work of demolition. Turning with a really superb motion, she stood in the rude doorway like some wild creature at bay, while the roof boards began to clatter upon the ground. I shall never forget her looks. Her whole body seemed to dilate, her long, black hair broke from its comb and streamed down her shoulders, and her eyes shone like two fires. She tried vainly to speak, but anger choker her and no articulate words came to her relief. With a swift, unpremeditated movement she raised her powerful arm and flung the earthen pitcher with unerring aim full into my face. I sank to the ground unconscious, with the blood streaming from a jagged wound in my forehead.

"I was taken up for dead, but finding that life still remained, my men managed with great difficulty to convey me to the nearest town, where I lay for a long time in the hospital.

"My life had hung so critically in the balance that Mrs. O'Shale, thoroughly frightened lest she might have to answer the charge of murder, had yielded every point in dispute with commendable meekness.

"Oddly enough, I found it difficult to harbor any lasting resentment against the woman who had brought me so near to my death. Much might be pardoned an ignorant, untrained creature who had lived through the cruel evictions of her native island, and having established herself after incredible hardships in a 'free country,' now believed her rights a second time invaded.

"After my recovery, I was called to a distant state, and only ten years later returned to pay a visit to the scene of my unfortunate experiences.

"So rapid had been the development of the country that I found it not easy to recognize familiar landmarks. Growing crops waved where forests had stood unbroken, and prosperous-looking houses and barns dotted the landscape.

"I left the train at a tidy little station, where the station master stood upon the platform apparently in the role of a hospitable host. He was a good-looking fellow, whose features seemed unaccountably familiar. The clew which my own memory would doubtless soon have supplied was given by a fellow passenger who alighted with me.

" 'Hullo, O'Shale!' said he, 'anything doing?'

"I gave the master a frank stare and then held out my hand. "Michael,' said I, 'have you forgotten Singleton?' I hope you and your father haven't any guns waiting for me this time.'

"The young man stared, looked keenly into my face, and blushed under his tan.

" 'Mr. Singleton,' he answered, 'this is mighty unexpected. But I'm glad to see you indeed, and'—he hesitated and stammered—'if you'll let by-gones, be by-gones, and do us the honor to call, my father and mother will be proud of your kindness.'

" 'Why, certainly! That's my errand here.'

" 'I wish I could take you over, but I can't leave the office. The up-train is due in 20 minutes. But the house is right over there beyond that grove of trees—the white one with green blinds. You can't miss it.'

"I could hardly believe my eyes. Could yonder large and commodious dwelling with its clustering outbuildings have replaced the log cabin and the shanty.

"Mrs. O'Shale herself answered my knock. Her black hair showed threads of silver, her dress was neat and becoming and her whole expression had softened. She recognized me instantly.

" 'The saints be praised!' she exclaimed. 'If it ain't Mr. Singleton himself! Many's the time, sorr, that I've prayed for this day. Me sin's laid heavy on me soul. O Lord, forgive me! is that me wurrk?' she screamed, as the removal of my hat discovered the scar. 'And all the time ye an' yer company was the best friends we had, if we'd but known. The worth o' the land's mor'n doubled since the railroad come through. Pat sold off a ten-acre lot the ither day for more money than the hull farm would 'ave brought when you was here. We've got the house an' the barns, an' a snug bit o' money in the bank, an' it's the foine wages entirely that Mike do be gettin' at the station. Ah! but it's meself as was a wicked fool! Mr. Singleton, I want to hear ye say that ye don't bear no ill will.'

" 'Not a bit, Mrs. O'Shale!' I answered with hearty truthfulness. 'And now I wonder if I could have the glass of milk I asked for so long ago! Or are your cows all dry, and your hens all flown away to the weasels?'

" 'Ah, Mr. Singleton! Git along wid ye for makin' game of a poor owld woman! Come inside and set down in the armchair whilst I blow the horn for Pat. Ha's hoein' over there in the potater patch. Set ye down, I say, till I do be puttin' on the tay-kettle.' "—Orange Judd Farmer.

No stream from
Its source flows seaward,
How lonely so-ever its course,
But some land is gladdened.
No star ever rose and set
Without influence somewhere,
And no life can be pure in its purpose,
And strong in its strife,
And all life not be purer and stronger thereby.

—Owen Meredith.

Glasses will not become clear if put into hot water when milky.

HINTS ON JELLY MAKING.

To extract the juice, place fruit in the kettle with just enough water to keep from burning, stir often and let remain on the fire until thoroughly scalded; or a better but rather slower method is to place it in a stone jar set within a kettle of tepid water, boil until the fruit is well softened, stirring frequently, and then strain a small quantity at a time through a strong coarse flannel or cotton bag wrung out of hot water, after which let it drain, and squeeze it with the hands as it cools, emptying the bag and rinsing it off each time it is used.

The larger fruits, such as apples and quinces, should be cut in pieces, cores removed if at all defective, water added to just cover them, boil gently until tender, turned into a bag and placed to drain for three or four hours or over night. Make not over two or three pints of jelly at a time, as larger quantities require longer boiling.

As a general rule, allow equal measures, sugar and juice. Boil juice rapidly ten minutes from the first moment of boiling, skim, add sugar, and boil ten minutes longer; or spread the sugar in a large dripping pan, set in the oven, stir often to prevent burning, boil the juice just twenty minutes, add the hot sugar, let boil up once, and pour into the jelly glasses immediately, as a thin skin forms over the surface which keeps out the air; cool quickly and set in a dry, cool, dark place.

Jelly should be examined toward the end of summer, and if there are any signs of fermentation, reboil.

Jelly needs more attention in damp, rainy seasons. To test jelly, drop a little in a glass of cold water, and if it immediately falls to the bottom, it is done, or drop in a saucer, and set on ice, or in a cool place; if it does not spread, but remains rounded, it is finished.

Some strain through the bag into the glasses, but this involves waste, and if skimming is carefully done it is not necessary. A little butter or lard rubbed on the outside of glasses or cans will enable one to pour in the boiling fruit or liquid, the first spoon or two slowly, without breaking the glass.

If jelly is not very firm, let it stand in the sun covered with window glass or pieces of mosquito netting for a few days. Never attempt to make jelly in damp or cloudy weather if firmness and clearness are desired.

Use a wooden or silver spoon to stir, dip with earthen cup, and cook in a porcelain-lined kettle.

Currants and berries should be made up as soon as picked; never let them stand over night.

When ready to put away, cover with pieces of tissue paper cut to fit and closely pressed upon the jelly, and put on the lid or cover with thick paper, brushed on the inside with the white of an egg, and turned down on the outside of the glass.

* * *

In making fig jam use ¾ of a pound of sugar to one of fruit after it is pealed and washed.

JELLY STOCK FROM CRAB APPLES.

Jelly Stock From Crab Apples.—Take three quarts of crab apples—not too sweet—add water till you can see it around the sides of the vessel and cook till soft. Use only the juice that will drain off through a colander as squeezing the fruit makes the jelly cloudy. Add the juice from three boxes of raspberries or strawberries which has been cooked and strained, and proceed as in any jelly making. This makes a delicious and also economical jelly. The pulp of the crab apples, if not crushed in the draining off the first juice for the jelly, will make good apple sauce.

HOMELY HINTS.

The best way to remove the charcoal from the bottom of your burned cake is to scrape it off with a grater.

The easiest way to clean a coffee pot is to boil in it water containing soda.

If you put lye into the water you soak your saucepans with, you will have no trouble washing it the next morning.

Soap suds take the new look from silver.

Windows will never be clear again if washed when the sun is shining directly on them.

Tissue paper is the best to polish mirrors.

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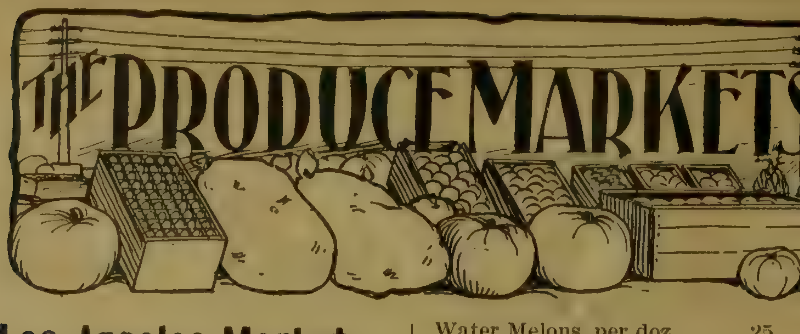

Los Angeles Markets.

Los Angeles, August 13.

Butter remains stationary, holding last week's quotations, though there is yet large quantity in storage, also heavy receipts of Eastern.

Ranch eggs took another advance with some sales reaching 27 cents.

Vegetables in very large receipt and market easy.

Potatoes are scarce, especially those of good quality, and increasing in price.

Local Muscat grapes are coming in.

Butter.

B. of T. Creamery, per 2lb roll..		60
Dairy, do	.52½	55
Cooking	.20	22½

Cheese.

California and 3-lb hand....		16½
Cal. Downey or Anchor ...		15
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.26	27
Fresh Eastern	.23	.24
Store, case count	.24	.25

Potatoes.

Potatoes, per ctl	.75	1.25
Sweet potatoes	4.00	5.00

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.40
Onions, yellow		.60
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chilles, green, per lb		.04
Peas, green, per lb		.02
Lettuce, per sack	.25	
Radishes, doz. bunches	.15	

Fruits; Fresh.

Green Black Figs, per lb....		.10
Cantaloupes, per doz	.10	.75
Water Melons, per doz	.25	1.00
Apricots, box of 30 lbs. ...	1.00	.75
Strawberries, box, fancy...	.04	.07
Raspberries, per box	.05	.07
Lemons, per box	1.00	2.25
Oranges, Navels, per box	1.25	2.50
Seedlings		1.00
Grape Fruit, per box	.75	1.00
Limes, per 100	.90	1.25
Prunes, Sumone and Hungarian, per box 30 lbs.		1.00
Peaches, per box	.25	.35
Northern Apples, per box 40 lbs.		1.00
Local apples, per box, 30 lbs.	.40	.60

Fruits; Dried.

Apricots	.04	.06
Pears	.07	.08
Peaches peeled	07	08
Peaches, fair to good, sks	.03½	05
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.06
London layers, per box		1.00@2.00
Loose, per box	6¼	7

Poultry.

Spring chickens	.15	.16
Hens, No. 1, per lb	.12½	.13
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23
Ducks, per lb	.10	12½

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	4 00	5 00

Hay and Grain.

Barley hay	8.50	10.50
Wheat hay	7.50	11.00
Barley, per ctl		7.50
Alfalfa, large bales	8.50	11.00
Corn, per ctl		1.50
Wheat	1.35	1.40
Oats		1.10

MILL STUFF.

Rolled barley		1.05
Bran		1.25

Quotations f. o. b. cars L. A., are:

Feed Corn Meal		1.60
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75

1903

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San Francisco Markets.

Dairy.

San Francisco, Aug. 13.

Butter is proving a disappointment not only to the producer but to the speculator who invested heavily in April and May at 21 to 25 cents, and placed in cold storage for the regular summer rise in price. The market held up in those months some three or four cents higher than last year but the speculation in the past had always proved so profitable that it was all picked up at the big spring prices. This year, however, the big spring prices encouraged early shipments from the East, which were of such volume that the summer market has been held far below that of the past. Hence disappointment on the part of speculators and incidentally, this time, on the part of the producers.

Quotations are.

BUTTER—Per lb:

Creamery, extras	.25	@25½
Creamery, firsts	.24	@24½
Creamery, seconds	.22	@23
Dairy, extras	.22	@23
Dairy firsts	.20	@21
Store	.18	@19
Eastern Creamery	.23	@24

CHEESE—Per lb:

California Creamery, extra	.14	@15
California Creamery, choice	.13½	@14
Young America	.14	@15½
Eastern, New York Cream	.18	@19

Eggs and Poultry.

Eggs seem to be holding the same prices during the week. Best quoted at 27 and 28 cents. Some large purchases have been made in the country for prices as low as 25 cents. The Santa Rosa auction plan by which the eggs are sold at home to the highest bidder is being considered by the Petaluma people and may result in its adoption there. Quotations are:

EGGS—Per doz:

Ranch, selected, large	.27	@28
Ranch, good to choice	.25	@26
Store	.19	@22
Eastern	.18	@21

Fruits and Vegetables.

Strawberries seem to be much lighter in receipt than last week, with consequent stiffening of prices and firming of markets. Blackberries are in sufficient supply and keep the prices low, and sales rather slow. Deciduous fruit is coming in in large quantities, and as a rule in excelent quality. Bartlett pears are arriving freely. Strictly fancy fruit is a very small proportion of the receipt. It commands the highest quotations, and is quickly cleaned up. "Mediums" seem to be a drag in the market. Grapes are now coming in from all sections, and the demand seems to keep pace with the supply. Prices have a wide range; some sweet water grapes from Martinez sold at $1.00 per box. Watermelons are now plentiful, and at much lower prices. Maximum quotations given below are only for the very fancy stock. Cantaloupes and nutmegs are in heavy supply, and usually sold below quotations. Peaches are in heavy receipt, much of the fruit being overripe for good sales.

There are few changes in the prices of vegetables; the fancy stock commanding slightly higer prices than last week. Tomatoes are in moderate supply, with liberal demand for best grades. Green corn sells quickly at quotations.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 40@80c; fancy, $1@1.10; Crabapples, per box, 30@65c.

PEACHES—Per box, 25@60; basket, 20@35c; bulk, per ton, Freestones, $15@20; Clingstones $15@25.

PEARS—Per box, No. 1 Bartlett, 75c@1.10; common, 25@60; bulk, per ton, $20@40; other varieties, per box, 30@60c.

PLUMS—Per box or crate, 35@85c, as to variety.

FIGS—Per box, $1@1.25 for small and $1.75 @2 for large boxes.

APRICOTS—Per box, 40@50c.

CANTALOUPES—Per crate, 75c@$1.75.

NUTMEG MELONS—Per box, 30@50c.

WATERMELONS—Per 100, $5@15.

GRAPES—Per box or crate: Seedless, 50c@ $1; Black, 50@90c; Fontainbleau, 50@75c; Tokay, 65@75c; Sweet water, $1.

BERRIES—Per chest: Strawberries: Large varieties, $3@4.50; Blackberries, $2@3.50; Raspberries, $4@6; Huckleberries, per lb., 6@8c.

TROPICAL FRUITS—Bananas, per bunch, Hawaiian, 75c@$1.50; Bluefields, $1@2.50; Pineapples, per doz., $1@2; Dates, Fard, per lb., 7@9c; do, Persian, 6@6½c.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, $1.50@3, as to quality. Valencias, $2@$3; St. Michaels, $2@3; Seedlings and Mediterranean Sweets, $1@1.50; Lemons, 75c @2.50; Grape Fruit, $1@2; Limes, $4@4.50.

Dried Fruits, Nuts, Etc.

There is very little trading in Dried Fruits and prices remain unchanged.

DRIED FRUITS—Prices for carload lots f. o. b. at California common shipping points, in bags for 1902 crop, are, per lb., as follows:

Apples—Evaporated, 5@6½c; Sun Dried, 3@ 4c.

Apricots—Royal, choice to fancy, new, 6¾ @9c; old, 6½@7c; Moorparks, choice, 9@10c.

Apricots—Royal, choice to fancy, new, 6¾ @8c; old, 6½@7c; Moorparks, choice, nominal:

Peaches—4¼@6½c.

Pears—4¾@9½c.

Plums—Pitted, 4½@6c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2¼@2½c, with ½@1c premium for large sizes; new crop, 2¾@3c.

Nectarines—Whites, 4@5½c.

Figs—White, 5½@6c; Black, 5c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown, $1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16 7¾c; 12 oz., 6¼c; bulk, 7½c; choice, 16 oz., 7½c; 12 oz., 6c; bulk, 7¼c.

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@ 6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—New Comb, White per lb., 13@14c Light Amber, 12½@13c; Extracted Water White, 6@6½c; Light Amber, 5½@6c; Dark Amber, nominal.

BEESWAX—Per lb., 32c.

Live Stock.

There has been no change in the live stock market other than hogs are slightly off. There are liberal stocks on hand and the market is lively.

Quotations are:

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@8½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 6@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb.: Fat Wethers, No. 1, 4@ 4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 140 lbs and over, 6@6¼c; weighing under 130 lbs, 5¾@6c; weighing 260 to 350 lbs, 5½ @6c; rough heavy, 4½@5c.

Hay and Feed Stuffs.

HAY—Prices on new Hay, per ton: Wheat, $11@14; Wheat and Oat, $10.50@12.50; Oat, $8.50@12.50; Barley, $8.50@11; Clover, $8@10; Alfalfa, $9@10.50; Stock, $8@9.

falfa, $9@10.50; Stock, $8@9.

STRAW—Good to choice, per bale, 45@60c.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

FEED CORN MEAL—Choice grades, per ton, $33.50@34.50.

GROUND BARLEY—Per ton, $23@24.

MIDDLINGS—Per ton, $28@30.

BRAN—Per ton, $24.50@25.50.

CRACKED CORN—Choice quality, per ton, $34.50@35.50.

BEANS—Prices per ctl: Large Whites, $2.90 @3.10; small do, $3@3.30; Peas, $3.30@3.50; Lima, $3.40@3.55; Red, $2.90@3; Pink, $3@3.10; Bayo, $3.50@3.70; Blackeyes, $2.75@3; Red Kidneys, nominal.

Cereals.

FLOUR—Net Cash, Family Extras, $4.60@ 4 85 per bbl.; Bakers' Extras, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—New Crop: No. 1 Shipping, per ctl, $1.46¼; choice, $1.48¾; White Milling, good to choice, $1.52½@1.62½.

BARLEY—New Crop: Choice, No. 1 Feed, $1,03¾@1.06¼; Shipping, $1.10@1.17½; Brewing, No. 1, $1.17½@1 20; Chevalier, nominal.

CORN—Good to choice, per ctl: California, new large Yellow, $1.57½@1.62½; small do, $1.75@1.77½; White, $1.55@1.62½.

OATS—Feed, good to choice White, $1.22½@ $1.32½; White Milling, $1.32½@1.37½; Red, $1.15@1.30; Black, $1.12½@1.20 for Feed and $1.25@1.35 for seed.

RYE—Good to choice, per ctl., $1.20@1.25.

Hops.

The prices for new crop are 18 @20c per lb, according to quality.

Eastern Markets.

New York General Market.

CHICAGO, Aug. 12.—Trading in wheat today was fairly active, and the general sentiment was inclined to the bull side under the influence of continued light receipts and a better cash and export demand. The opening was somewhat irregular, the distant deliveries being steady to firm, while the September option was easier as a result of lower cables. September was off ⅛ to ¼ at the start, opening at 79¾@79⅞, selling up early to 80¼@80⅜. The advance was due mainly to active demand for December and May, with but little on the market. On the advances there was realizing in all months, but the feature was the heavy liquidation of September, which resulted in that month declining to 79½. Notwithstanding the large amount thrown on the market, the declines were only temporary, reactions occurring whenever the selling had ceased. The strength in corn was a help in advancing prices late in the day, and caused a firm close, September being up ¼ to ⅜ at 80¼@80⅜. The sentiment in the corn pit was decidedly bullish on the cold weather throughout the corn section, snow being reported at Omaha. The close was at the top figures, September being ¾ higher, at 52⅞. There was only a moderate trade in oats, but prices were firm throughout the day, due partly to the strength in corn and partly to the lack of offerings. September closed ⅝ higher, at 34⅞. A liberal run of hogs and easier prices at the yards caused lower prices in provisions. Trading was extremely quiet, and the market showed little fluctuation.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 82@83; No. 3, 77@ 81; No. 2 red, 78¼@79¾; No. 2 corn, 52⅝@53; No. 2 yellow, 53⅝; No. 2 oats, 35¼; No. 3 white, 34¾@36; No. 2 rye, 51¾@53; fair to choice malting barley, 47@53.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	31,400	8,700
Wheat, bushels	377,500	30,700
Corn, "	214,200	234,000
Oats, "	391,500	151,000
Rye,	12,900	4,300
Barley, "	14,300	800

On the Produce Exchange today the butter market was firm; creamery, 14@19; dairy, 13 @17; eggs, firm, 12@15; cheese, steady, 10½@ 11¾.

Chicago Live Stock.

CHICAGO, Aug. 12.—Cattle -Receipts, 19,-000, including 2000 Texans; with best grades steady; others slow; good to prime steers, 5.00@5.45; poor to medium, 3.60@4.80; stockers and feeders, 2.50@4.25; cows, 1.50@ 4.50; heifers, 2.00@4.75; canners, 1.50@2.70, bulls, 2.00@4.25; calves, 2.50@6.75; Texas fed steers, 3.25@4.50; western steers, 3.50@4.25. Hogs—Receipts, today, 37,000; tomorrow, 25,-000; left over, 3000; market mostly 10c lower; mixed and butchers, 5.10@5.75; good to choice heavy, 5.45@5.65; rough heavy, 5.00@5.40, light, 5.40@5.75; bulk of sales, 5.30@5.50. Sheep—Receipts, 15,000; sheep and lambs steady; good to choice wethers, 3.25@3.75; fair

to choice mixed, 2.50@3.25; western sheep, 2.75@3.60; native lambs, 3.25@6.00; western lambs, 4.30@5.65.

California Dried Fruits.

NEW YORK, Aug. 12.—The market for evaporated apples is quiet, but steady. Common, 4¾@5½. Prime, 5¾@6; choice, 6¼@6½; fancy, 6¾@7½. Prunes steady to firm. Quotations range from 3@7 for all grades. Apricots continue firm; new crop, choice, 9½; old crop, 9@9¾ for choice and 10 for fancy. Peaches are dull and unchanged at 7@7½ for choice and 8@10½ for fancy.

CITRUS MARKETS

ORANGE MARKET.

The week has shown somewhat heavier arrivals at auctions and easier prices, not only on account of oranges being more plentiful, but other fruits are on the markets in large quantities. There has been a decline of 35 to 50 cents per box. Markets are not in strong tone.

Western markets are showing a fair amount of activity and taking good stock at satisfactory prices. The market generally being fairly well cleaned up under the lighter shipments that have been going forward, and conditions are favorable.

LEMON MARKET.

Lemons continue to drag, western dealers being unable to use them except in very limited quantities, and anything diverted to auction points meeting with disastrous results, especially when showing quite heavy decay. The weather continues cool and unfavorable for lemons and prospects are for low prices, even for limited shipments at present, only good keeping stock wanted. Weak, decaying stock will not bring expenses.

AUCTION SALES.

NEW YORK, AUGUST 6.

A. C. G. Fr. Ex., Stag Valencias, $4.20. Pointer, $3.15. Hunter, $2.35.
C. C. U., Claremont, Knickerbocker lemons, 15 per cent decay, $1.65.

BOSTON, AUGUST 6.

Market steady.
T. C. Fr. Ex., Perfection Valencias, $3.10. Cannon Valencias, $2.55.

NEW YORK, AUGUST 7.

Market strong on Valencias.
A. H. Fr. Ex., Squirrel Valencias, $3.65. Palm Tree, $3.15. Squirrel lemons, $3.15. Palm Tree, $1.75.
A. C. G. Fr. Ex., Pointer Valencias, $2.75.

PITTSBURG, AUGUST 7.

Market steady.
O. K. Fr. Ex., Owl Valencias, $2.45.
C. C. U. Yerkes, Geranium Valencias, $2.85. Baby, $2.60.
Riverside Fr. Ex., Uncle Sam Seeds, $2.55. Fiesta, Seeds, $2.40. Orchard run Navels, $2.70.

PHILADELPHIA, AUGUST 7.

Market strong on Valencias.
Semi-Tropic Fr. Ex., Blue Ribbon lemons, $2.85. Punch, $2.05. Club, $1.55.
A. C. G. Fr. Ex., Pointer Valencias, $3.70. Hunter, $2.45. Pointer Lemons, $3.

CLEVELAND, AUGUST 7.

Market strong on Valencias.
Riverside Fr. Ex., Blue Globe Valencias, $4. Red Globe, $3.
S. D. Fr. Ex., Silver Gate lemons, $2.30. Bay, $1.85. Mission, 20 per cent decay, $1.55.

CINCINNATI, AUGUST 7.

Market declining.
Semi-Tropic Fr. Ex., Extra Fancy lemons, $3.05. Extra choice, $3. Choice, $2.35. Standard, $2.40.

NEW YORK, AUGUST 10.

Riverside Fr. Ex., Seal Mikes, $3.60.
C. C. U., Whittier, Arbutus Valencias, $2.45;
S. B. C. Fr. Ex., Tiger Valencias, $3.45.

PHILADELPHIA, AUGUST 10.

Market strong on Valencias.
T C. Fr. Ex., Perfection Valencias, $3.25. Cannon, $2.45.
O. K. Fr. Ex., Owl Valencias, $2.20.

BOSTON, AUGUST 10.

Market weak.
La Mesa Valencias, $3.85. Golden Rule, $3.55. Golden, $2.50.

CINCINNATI, AUGUST 10.

Market steady.
S. T. Fr. Ex., Don Q. Valencias, $3.
O. K. Fr. Ex., Owl Valencias, $2.40.

PITTSBURG, AUGUST 10.

Market declining.
Covina Fr. Ex., White Seal Valencias, $2.60.
O. K. Fr. Ex., Owl Valencias, $2.40.
C. C. U., Covina, Amethyst Valencias, $2.20.

CLEVELAND, AUGUST 10.

A. C. G. Fr. Ex., Pointer Valencias, $2.70. Hunter, $2.10.
S. T. Fr. Ex., Sierra Madre lemons, $2.90. Wilson Trail, $2.35. Canon, $2.15.

NEW YORK, AUGUST 11.

Covina Fr. Ex., Blue C. Valencias, $3.30. Red C., $3.35.
A. C. G. Fr. Ex., Blue Shield Valencias, $3.30. Green Crown, $2.40.

PHILADELPHIA, AUGUST 11.

Market strong on Valencias.
Riverside Fr. Ex., Blue Globe Mikes, $3.85. Red Globe Mikes, $3.30. Blue Globe Valencias, $3.55. Red Globe, $2.85.

BOSTON, AUGUST 11.

Market steady.
S. B. C. Fr. Ex., Tiger Valencias, $3.50.

NEW ORLEANS, AUGUST 11.

Market steady.
D. M. Fr. Ex., Violet Valencias, $3.15.

Shipments for season ending August 10, 21,383, of which 2,438 were lemons. Shipments for last season, same date, 16,822, of which 1469 were lemons.

A fearful railroad wreck occurred in Michigan last week in which the Wallace Bros. Circus was wrecked and many of the employees killed.

The crowning of Pope Pius X occurred at Rome last Sunday amidst the geratest splendor and pomp.

Kansas suffered another terrible tornado last week, two being killed and a vast number injured.

Lieutenant General Nelson A. Miles has relinquished the command of the United States army. Lieutenant General S. B. M. Young is now in command.

BUSINESS NOTES.

The recent invention of the beet puller, of the Killefer-Griffith Mfg. Co., of Los Angeles, has proved an entire success in the fields about Oxnard and Salinas. This puller is manufactured for the purpose of loosening two rows of beets at one time, and requires slightly more power than the one for lifting one row at a time. It has been tried in hard ground as well as in sandy, and has been found to stand the test, and it has proved a complete success with far less draft than anticipated. The Killefer-Griffith people believe in putting up a machine which will stand the work which it has to do.

* * *

As a pointer as to what advertising will do, A. R. Coulson writes us that he is selling more chick and poultry food than he can possibly supply. This is notwithstanding his new machinery and improved mixtures, which he recently established.

* * *

Mr. Rogers says that the Tilton cot is the very best canning variety of that fruit, as it remains very firm when peeled and cooked and has an excellent flavor peculiar to its variety alone. In drying, the fruit is a dark yellow color at the pit, giving it an appearance very tempting when packed and the fruit is much desired by packing house men.—Hanford Journal.

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Los Angeles, Cal., June 30, 1903.

The following named children have been received in the Boys' and Girls' Aid Society Home since April 1st.

Half orphans: William Higgins, male, aged 11 years, light hair, blue eyes; Harry Higgins, male, aged 10 years, light hair, blue eyes; Rowland Higgins, male, aged 8 years, light hair, blue eyes; Harry Higgins, male, aged 6 years, light hair, blue eyes; Ruby Higgins, female, aged 4 years, light hair, blue eyes; Peppa Bailey, female, aged 3 years, black eyes, dark hair; Roberto Bailey, male, aged 4 years, dark hair, black eyes; Gertrude Chapman, female, aged 6 years, dark hair, black eyes; Chester Garwood, male, aged 9 years, light hair, blue eyes; George Garwood, male, aged 11 years, light hair, blue eyes.

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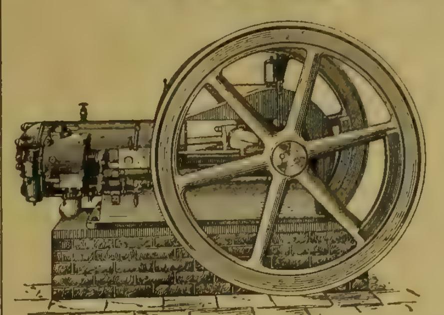

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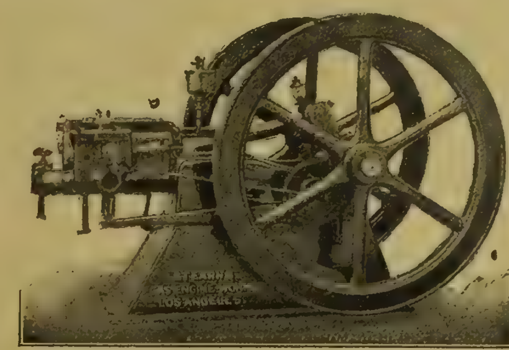

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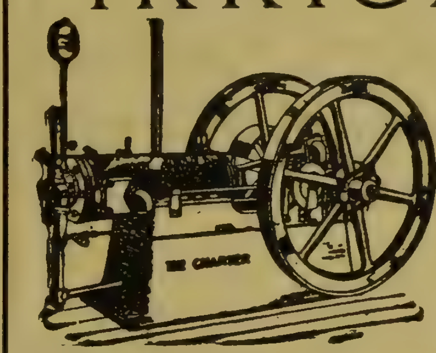

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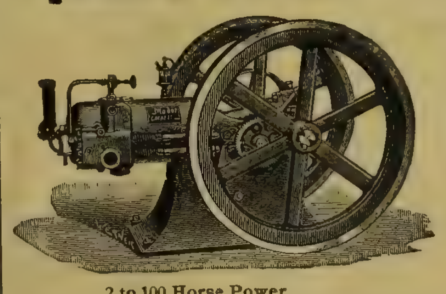

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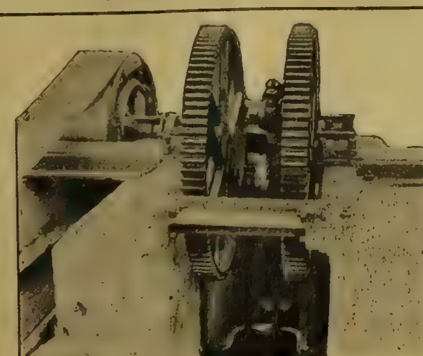

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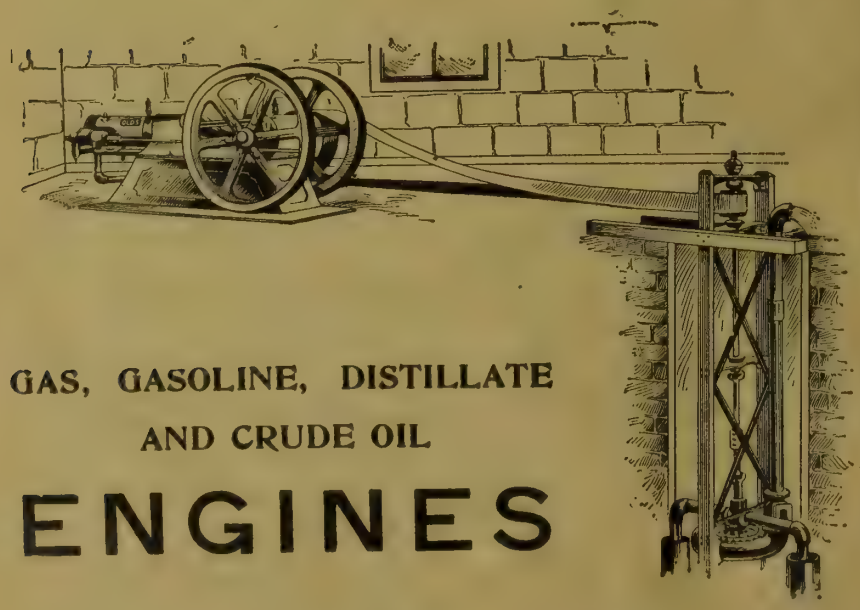

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Smoother Fruit MEANS Smoother Prices

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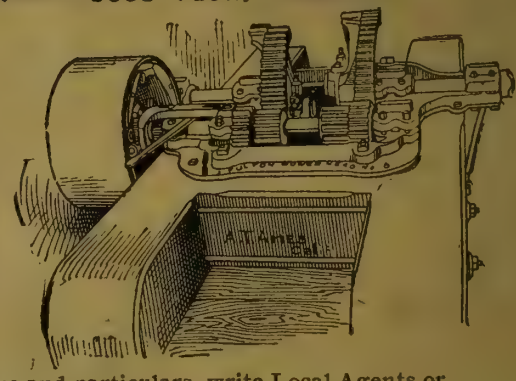

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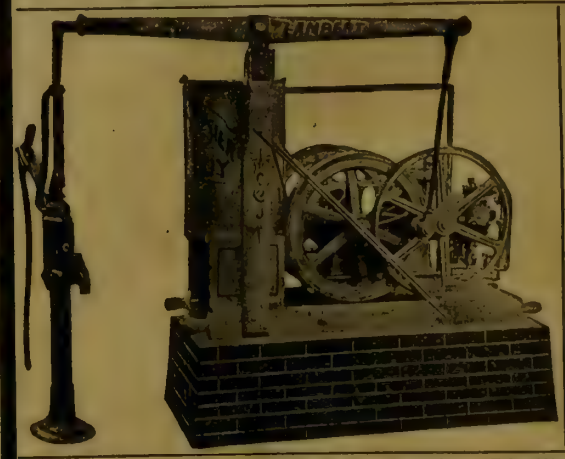

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 8 LOS ANGELES, CAL., FRIDAY, AUGUST 21, 1903 Subscription $1 a Year

The Combination of Orchard and Dairy

As a rule the production of lemons has been considered as in a class by itself, and the production of milk as in a class by itself, and each located in sections which give best returns for that line. Of course, this must be true within certain limits, that is, we cannot raise lemons in a low, pasture land, which is supposed to be best adapted for the most economical returns in dairying. Neither may we with greatest economy conduct a dairy on a sandy loam of the frostless uplands where lemons are supposed to secure best returns for their owners. But that there may possibly be a merging of the two lines of business, under such conditions that both are benefitted and made more profitable, we believe is being proved in California today.

To be sure, the most economical product of feed for the dairy must be in the rich lands where the water is abundant and cheap; but by little economy and intensive farming, root-crops, and corn may be raised between young orchard trees which aid materially in the production of a rich flow of milk.

We have heard it said that with fertilizer at the price usually charged for it, if dairy stock will support itself by a direct product, the waste material alone would furnish abundant profit for the orchardist who will grow the largest and best crops. For instance, bran which costs $20 to $25 per ton, has more than one- half of its value thrown upon the manure pile.

This combination of dairying and orcharding is not common, but believing it has points worthy of consideration we write this week of one experiment which is working out successfully.

With the number of lemons in Southern California being rebudded to oranges it is gratifying occasionally to come in contact with those who are making a success of the lemon. Several cases where success is being made have been mentioned in the Cultivator, and it now proposes to refer in a few words to one orchard from which some of the finest fruit in Southern California has been shipped. This has been made to a certain extent possible by the manufacture of manure on the ranch by the above mentioned plan and has resulted in giving it an enviable reputation, and as well has resulted in desirable returns to the owner. The orchard referred to is that on the Leffingwell ranch, of Whittier, of which C. W. Leffingwell, Jr., is the manager. This orchard comprises about 500 acres of land, on part of it being 20,000 citrus trees, of which not far from 15,000 are lemons, almost entirely of the Eureka variety. The Villa Franca are also planted, but it is not so great a favorite as the Eureka.

It was the pleasure of a Cultivator representative to make a visit to this ranch this week, and to inspect Mr. Leffingwell's method of handling his orchard and of handling the fruit in the packing house. The orchard is on a rather heavy soil, but it is a soil which requires but little irrigation, if given good care. Up to this time this year it has had but one irrigation, and the general appearance of the trees is such that there is no question, but they have had an abundance of water. The foreman, F. W. Gray, gave us something of an idea of the manner of irrigation.

The water for irrigation is supplied from one well, about 300 feet deep. The lift is 100 feet but this is readily accomplished and the quantity of water needed is supplied by a powerful pumping plant. The furrows, of which there is only one on each side of the row of trees, are made as deeply as possible with a large furrowing shovel, which, in the irrigation given this year, was followed by a sub-soil plow, which broke up the soil and the "plow sole" to a further depth of six or eight inches.

The next irrigation will be handled somewhat differently. The sub-soiler will be used to cross the orchard at an angle with the flow of water, then as the water trickles down one furrow it is caught by these cross furrows and all the soil between the furrows on either side of the trees is thoroughly soaked. This method has been proved successful by excavation in the soil which showed that the water reached nearly all parts of the ground. The cultivation which followed the irrigation was both deep and thorough, and a perfect mulch of dry dust is kept on top of the moist soil.

At the time of the visit there were two power-spraying outfits at work applying a two and oe-half per cent. solution of distillate spray. This spray has proved so eminently satisfactory that Mr. Leffingwell champions its cause as the best method of controlling the black scale. One thing is sure, the part of the orchard which had been sprayed for several days showed the immediate results of the spraying to be beneficial, in this, that the smut which before covered the leaves, rattled off at the brushing of the trees, or even from the rustling of the wind. The two spraying outfits are each manned by two Japanese workmen, and are kept supplied constantly with water and distillate by one wagon.

The lemons are all cut to size, each picker being supplied with a ring, which gives in the packing house a remarkably uniform size of lemons.

The method of handling the lemons is that followed by the Limoniera ranch at Santa Paula, and gives results that are truly remarkable. Lee Williams, foreman of the packing house, informed us that he could handle November lemons so that the following June they would be as bright and fresh as any market would demand, and the per cent. of decay in that length of time has not been to exceed one-fortieth of one per cent. This he says he is enabled to do by this tent method.

The fruit as it comes from the orchard is at once placed through the washer. The method of handling the fruit is to dump it in a long and deep vat of water, from which an automatic feeder lifts the fruit to the tables of the power washer propelled by an electric motor. The fruit is constantly dumped in the vat at the end farthest from the machine, and by the time it reaches the brushes it has the smut and dirt thoroughly loosened, so that nearly all the fruit comes out perfectly bright and clean. It passes from the brusher to the endless carrier, and from that to the trays which are on a level with it. There is absolutely no falling or bumping around of the fruit, neither in this machine or in any other part of the packing house. This extreme care of handling is one occasion for the slight percentage of loss in the packing house. How this slight loss can be continued in the refrigerator cars, and in the eastern markets, is a question which our lemon people would like to solve. As yet it seems impossible to give the fruit this care after it leaves the California packing house.

At the side of the trays, after the fruit is delivered from the endless carrier, stand the workmen who give the first grading of the fruit. This is determined by the color or degree of ripeness. If the fruit is wished for immediate shipment, it is placed in the sweat room, where a temperature of 90 to 92 degrees is maintained day and night for about six or seven days. The object of this is to hasten the coloring of the green fruit and to make it ready for immediate marketing. The effect upon the keeping quality of the fruit is not in the least injurious, the only point which is regretted at all, is that most of the stems drop from the fruit, giving it something of the appearance of the "drops," but the trade readily understands this, and there is no decay, such as comes from the fruit pulled from the trees.

If the fruit is not wanted for immediate shipment, the different grades of colors are placed in their respective tents, and enclosed by drawing the tent down on all sides. Then begins the eternal watchfulness, which is necessary to keep just the amount of moisture necessary to prevent the fruit from wilting, and not enough to encourage the growth of the rot fungus. It seems that temperature has but slight effect upon the keeping of the fruit, but that moisture has all to do with it.

When ready for market the fruit is

(Continued on page 124)

Lemon Tree
Modified Baronio method of pruning

The Washing Machine
Lemons are washed as soon as picked

Sergeant Fox
Here is aristocratic carriage

CALIFORNIA CULTIVATOR

ESTABLISHED 1860
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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solicited on all matters of interest pertaining to farm work or development of the resources of our country.

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We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

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Entered at post office at Los Angeles, Cal., as second class matter.

Friday, August 21, 1903

Circulation this issue 8,450

INSTITUTES.

Since the dates given in our last issue of the Southern California Institutes, there have been some changes made which may be noted in the corrected lists given below. We may first say that in Northern and Central California the dates have not as yet been arranged, at least only one, which is at Pacific Grove, Monterey county, on August 26 and 27. This will be conducted by D. T. Fowler, who has charge of all the Northern California Institutes. Regarding these Institutes, Superintendent E. J. Wickson writes: "We do not find it desirable to do much in September and so will begin very soon and canvass to fix dates in the following months according to the wishes of the localities. You can say, however, if you desire to make an item on the subject, that correspondence is requested from all localities and that we would like to have a statement of the week or month which is most acceptable and will try and make appointments so far as possible to meet local desires."

Regarding the dates of the Southern California Institutes, Prof. Cook furnishes the following: Goleta, August 28-29: Carpinteria, August 31 and September 1; Ventura, September 2-3; Fillmore, September 4-5; Fernando, September 7; Tropico, September 8; San Dimas, September 9-10; and Upland September 11-12.

LOS ANGELES POULTRY SHOW.

The Los Angeles County Poultry Association makes definite announcement that it has secured Hazard's Pavilion, and will hold a poultry show on December 7-12, and plans are laid for good t..ings this year to make up for no show last year. The members of the Board of Directors are: Henry Albers, Eugene Germain, Chas. T. Paul, S. R. Kellam, Harry E Rose, George Pomeroy and Henry W. Kruckeberg.

These men take hold of the movement thus early with a vim which promises complete success of this exhibition. Hazard's Pavilion is the biggest show room in Southern California, and is admirably lighted and adapted for big shows. H. W. Kruckeberg is secretary of the association.

WELCOME G. A. R.

The veteran has the State. And he is welcome to it. May he so appreciate the heartiness and completeness of the welcome that he will wish to accept it for the remainder of his life.

It is seventeen years since the last assemblage of the Grand Army on this coast. Should it be another seventeen years before the next coming there will be a vast increase in the roll—up yonder. And the march will be slower.

To those who are here, we say that California has the best on earth to give you. It's none too good for you. Stay and enjoy our fruits, our flowers and our tempered breezes.

We all say—Welcome.

THE CANAL TREATY REJECTED.

With disappointment the news of the rejection of the canal treaty by the Colombian government is received. It means sure delay and possible defeat of the Panama canal. It may mean the possible taking up of the Nicaragua route, which if done without too great delay, will give to Californians and many others their first desire.

Under the law, the President is instructed to accept the Nicaragua route if unable to complete its arrangements with the Colombian people. The unanimous rejection of the treaty by the Colombian Senate would indicate that the rejection is final. We hope negotiations will be opened at once with Nicaragua.

Late dispatches of a private nature state that the Colombian Senate on the evening of the 13th appointed a committee of three senators to come to an agreement with the House of Representatives for the purpose of passing a bill authorizing the government of Colombia to make a treaty in the form approved in advance by both houses of Congress.

Whether this means a new treaty or amendments of such a nature as to prevent its acceptance by this country remains to be seen.

SUCCESSFUL MARKETING.

J. M. S., of Otay, Cal., asks the following: "What is the meaning of the combine between the Association and the commission or f.o.b. men? How are the growers to be benefitted by the union, if present condition of the market is a sample?"

The question asked by J. M. S., we believe to be pertinent and timely. It is one that is uppermost in the minds of a number of growers—of exchange members as well as outsiders.

To answer the question a good many points of view must be taken of the citrus industry.

What was the cause of the formation of the Exchange?

Why the selling delivered plan?

Why did the f.o.b. and commission houses join in forming the Citrus Union and that body merge with the Exchange in forming the California Fruit Agency.

Then the latter part of the question—"how are the growers to be benefitted by the union if present condition of the market is a sample," calls up another list of questions.

What was the cause of the poor demand for citrus fruits this year?

What caused the holding back of the fruit in the early part of the season, causing a glut in the latter part?

What was the cause of the poor keeping quality of the fruit as well as the poor flavor?

The answer to all these questions is known to almost every grower.

The present selling delivered plan of citrus fruits was evolved by the Exchange several years ago, when the f.o.b. and commission sales had been proved failures. This plan had been declared impracticable by the commission houses and outside growers, yet in the formation of the fruit agency the plan of handling the fruit by the Exchange was adopted and the Exchange officers and selling agents continued.

The forming of the Fruit Agency and adoption of its selling plan was a complete acknowledgment of its superiority.

The cause of the low prices received this year was not—and we believe the growers agree with us in saying it—the fault of the agency.

Poor quality, holding back of fruit before the formation of the agency and a consequent glut was not in the marketing end of the transaction.

The Cultivator does not mean for an instant to say that no mistakes have been made by the Exchange. We are not here to apologize or explain away mistakes, nor gloss over any irregularity that may occur. The growers in the Exchange have access to the reports and can tell whether their fruits are being handled to the best advantage. The annual meetings are now being held, the reports read and contracts entered into for the coming season. Attend your annual meeting, get at the inside facts before you register your kick, then if you don't like the way things have been managed make your protest, and make it hard.

But there is one very important proposition the Cultivator wishes to impress on the growers at this time, and that is, the crop for next season promises to be a big one—35,000 cars is the prediction. What are you going to do with it? To successfully market that number of cars will need a magnificent organization, one that can handle the old and exploit new markets.

We are not attempting to extenuate any shortcomings in any direction, but we do wish to impress on the growers that until they can find a better plan of marketing they sould be slow in knocking on a proposition that is managed by men admittedly able and honest and who are working for the best interests of the citrus industry.

THE STATE FAIR.

On Monday, August 31, the State Fair at Sacramento will open. Only a little over a week from this issue of the Cultivator. An honest effort is made to produce a fair which will be true to name—an Agricultural Fair.

How this will be received by the producers of the State remains to be seen. The "fairs of the past few years have been in no way a credit to the State. Worse, they have been largely gatherings of jockeys, pool sellers and gamblers. How much this has prejudiced agriculturists against it we do not know.

We trust the present movement for a for-sure fair will be heartily seconded. But if this support is not as complete as it should be the first year there should not be discouragement. The Pacific Rural Press says:

"If the fair should be allowed to fail after shuch an effort the conclusion would be almost irresistible that the people care little for it and that it had better be forsaken. This would place California in the position of abandoning an annual exposition of its progress which would, in the mind of the country at large, remove California from the list of progressive States, and, with interests depending so largely upon agricultural development, this would be exceedingly unfortunate and injurious."

But we trust such conclusion will not be reached, should this first year under its reorganization prove less successful than hoped.

The California Promotion Committee, also the State Board of Trade and other bodies are joining in making the fair a success. Let the farmer encourage it. The new premium list has many attractive features. Secretary Lowden will mail copies to all requesting them.

A meeting is called for September 8 to be held in Chicago, for the purpose of considering the formation of a mammoth Farmers' Co-operative Association, to include all farmers of the country. Dollar wheat, 60 cent corn and 40 cent oats throughout the year is one of the claims of the prime movers. We hope this is a case of co-operation and not of crankiness.

We note that Highland Park, a beautiful suburb of Los Angeles, has formed an improvement association and is working for more well-kept roadways and roadsides. This particular association is only one of many such associations which are accomplishing results. Public sentiment is a power and these clubs create sentiment.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

AS A SHEET ANCHOR.

Those growers who have sacrificed their time and talents for the last few years in building up the scores of co-operative institutions which give existence and authority to the organizations formed for selling the products of their orchards will never have to fight over the same grounds again. As ways and means of conducting the next campaign of marketing citrus fruits come under discussion this summer, none are found advocating the abandonment of co-operative marketing. This is the first year since the co-operative movement began that no one is found presenting a new scheme to supplant the selling agency devised ten years ago in the wisdom of the co-operators. There are a few free lances who have never entered into the spirit of mutuality that has achieved such stable results for the citrus fruit industry, and whatever of criticism is found against the plan adopted last spring comes from them. The only public discussion heard this season upon the fruit marketing question is before the farmers' institutes, and the advisability of co-operation along the lines established several years ago seems to have been answered finally in the affirmative. Just see what two years have brought about. In the spring of 1901 a deep-laid scheme was hatched, apparently by those who had no interest in the business either as growers or shippers, to destroy the co-operative spirit among the fruit producers. We were treated in big black headlines to "Faulty Methods of Marketing," "Evils of consignment Shipping," "A French Model," "David Lubin With Us," and a dozen others calculated to catch the unwary and weaken the co-operative idea. But the effort was ridiculed by the growers and made light of by the shippers whom it was voluntarily set forth to benefit.

Only two years of inevitable grinding on toward the finish were required to settle it. The questions of selling delivered and selling f.o.b. would not down with one-half of the fruit in the hands of the Exchange and the other under control of the shippers. It did not occur to the average grower then that it could never be settled under these conditions or under any conditions other than the control of the entire output of fruit by one authority. Neither did it appear that distribution of the fruit could ever be properly acomplished till one authority had control of it. Nor did there seem an end to the war between the co-operative growers and the so-called independents. The former had striven for years to secure a greater proportion of the growers, but could not so long as there were other means of their disposing of their fruit. But the climax came last February, and since the promulgation of the union, one wonders how the crash had been staved off so long, with these two great factors in opposition at every market center in the country. The expected may have happened sooner than was contemplated, but none the less inevitably. For the dealers had the same right to continue handling the fruit for one-half the growers that the Exchange had for the other. In this dilemma only three things were possible: The disorganization of the Exchange; the adherence to the Exchange of all the outside growers, or consolidation into one selling agency. The latter was what occurred, and unless the critics can controvert the fact as set forth in this sentence no other solution has ever been possible. Thus we see the futility of the criticism—sporadic and harmless to all—indulged in by those growers who would not unite with the Exchange and have no better place to offer than that now in successful operation. Those who carp about consolidation should remember that they themselves were prime factors years ago in shaping the ends just reached and from which conclusion of the question there was no escape. It comes

with ill grace, then, for these former outsiders to try to undo their own doing, inadvertently as they may have been forming conditions that could culminate in no other way than in the consolidation of the two great forces that faced each other for years with so much loss to the entire industry But few will hold back now that events, clearly the outcome of the growers' own acts, have compelled amalgamation to avoid destruction. All thoughtful, conservative growers will accept the new plan, and only those who think the genius of selling fruit rests with the individual wll fail to give all posible assistance to the work of the California Fruit Agency.

A Cultivator representative strayed into the F. rmer's club meeting last week held at the home of A. D. Bishop near Santa Ana. Mr. Bishop is president of the club. Roy Bishop gave an interesting talk upon manuring, nitrofying, and de-nitrofying bacteria; he also exhibited, under microscope, the white, red, and black scale, and the little insects that destroy the scale. Music and refreshments came in the last part of the evening and every one had a good time. The ladies and future farmers and farmer's wives were present and enjoyed themselves. One suggestion made by Dr. Wall was that one could make the best budding cloth by using strips of cloth dipped in hot beeswax and wrung out. He claims tnat resin spoils budding.

GENERAL NOTES.

The apple crop of New York State is said to be about one-half of the average crop.

There will be an irrigation demonstration prepared by the government for exhibit at the St. Louis Exposition.

The Battleship Massachusetts suffered from a collision witn a submerged rock while near Bar Harbor, Maine.

Apples are dropping very badly in nearly all Eastern apple sections, and there is a probability for a very light crop.

Turkey is having new trouble from another outbreak in Macedonia. Russia is intending to take a strong hand in the matter.

W. H. Mills has been appointed chief of the department of forestry for the California exhibit at the St. Louis Exposition.

The officers of the National Irrigation Congress have made an offer of a loving cup, valued at $500 for the best and largest exhibit oi green fruits at the National Irrigation Congress.

Professor Elwood Mead, in charge of the irrigation investigations for the U. S. Department of Agriculture, has left this country for a trip in southern Europe. While there he will investigate irrigation institutions.

A matter for general congratulation is the broad national attitude which the Eastern press has assumed in treating the irrigation problem since the subject was brought prominently before the country by its discussion in Congress, followed by the passage of the National Irrigation Act.

The American Forestry Association will hold its annual meeting at Minneapolis, Minn., beginning next Tuesday, and hold three days. The program includes several papers on "Taxation and Private Forestry," "Government Aid to Private Forestry;" "Forest Culture in Agricultural Colleges;" "Trees, Plants," and many other matters which mean much to the future preservation of our water sheds and lumber supply.

The Bureau of Forestry is now maintaining a force on the mountains about Pasadena, surveying, and planning for the establishment of a forest tree nursery. Their investigations are looking toward the best varieties for certain conditions, how best to plant, propagate, protect from forest fires, etc. L. C. Miller, who is in charge of the party, says the work will be completed by November. There are immense posibilities of protecting our water supply in these mountain ranges.

Coast News and Notes

By R. A. Dague, 1045 Regent St., Alameda

Over an inch of rain fell in the Yucapai Valley last week.

Wastonville shipped three cars of prunes to Germany last week.

The net returns of the melon output of Coachella is over $40,000.

San Bernardino reports the honey crop will be one-third of the average.

Ocean Park is taking steps to incorporate as a city of the sixth class.

Ventura County Board of Supervisors have passed a rigid anti-saloon law.

The Julian apple section promises the biggest and finest apple crop in years.

The crop of beans in Ventura County this year is estimatea at 500,000 sacks.

Jeffries remains the boss slugger. Hog cholera is still raging in Kings County.

About forty tons of Sardines are handled every week in the cannery at San Pedro.

Early predictions are being verified as to an immense apple crop at Watsonville.

The hop louse is still abundant in Somona county, notwithstanding this, a fair crop will be harvested.

The "man hunt" for the escapes from the State prison, not proving profitable, has been abandoned.

Santa Cruz is establishing a tent city, which had been made so popular in Coronado and Catalina Island.

The Santa Rosa Poultry Association is now selling its eggs in San Francisco direct, instead of by the former auction plan.

The Walnut Asociation of Oxnard is overhauling and repairing its warehouse. The output of this year will be far below the average.

Los Angeles County School Board has ordered the discontinuance of the vertical style of hand writting. Doubtless many other Boards will follow this example.

Claremont, the seat of Pomona College has just completed a large number of mains which now gives it one of the best domestic water systems in California.

There are now thirty-four rangers doing guard duty in the San Gabriel and San Bernardino forest reserves. These reserves comprise over a million and a quarter of acres.

Monterey County has refused to make the $250 appropriation for experiments to kill the codling moth in packing houses. Santa Cruz is working along that line however.

The Banning Company, owners of the famous Catalina Island propose to erect a magnificent new hotel at the isthmus. This will make the isthmus a strong rival of Avalon.

The raisin growers of Fresno are still hoping to have this year's contract signed up by sufficient producers to make it effective. The hope, however, is not so strong as it was early in the season.

The Co-Operative Telephone Company of Pomona, which was first organized in a farmer's club meeting, is now ready for operation, and is said to be one of the finest installed plants in California.

The black leg disease has invaded Nevada City section, and hundreds of head of cattle are dying as a result. Vaccination of the stock not yet diseased is being carried on as rapidly as possible, in the hope of saving some of the stock.

The Santa Clara valley section is discussing the prices of prunes for the coming year. Packers wish a two and one-half and two and three-fourths cent basis, while the growers are yet holding for three and one-fourth to three and one-half cents. It is probable a 3 cent compromise will be made.

There is an epidemic of typhoid fever in and near McCloud, Siskiyou county. Several deaths have occurred.

It is estimated that the celery crop of Orange county this year will be 2200 acres as compared to 1800 acres last year.

Santa Rosa is advertising for bids for the installation of a pump that will have a capacity of 2,500,000 gallons a day.

One of the Stockton canneries employes 400 hands. At this writing a half million cans of apricots have been put up.

Mr. Harry, State Grange Organizer, is hard at work in the Santa Clara valley organizing farmers into co-operative associations.

The apricot crop in the vicinity of Haywards proved to be the most profitable for many years. The prices ranged from $27.50 to $30.00 per ton.

Mr. Griffith, live stock inspector of Kings county reports that stock in his county is in a very healthy condition with the exception of swine. The cholera is still very serious.

George E. Colby, chemist, in the Agricultural Department of the University has just issued a bulletin on "Arsenical Insecticides." It contains a thorough treatise on Paris green, its use and abuse, also formulas.

There is now on exhibition in the rooms of the Oakland Board of Trade, left there by W. S. Fake, a sample of "Vegetable Marrow." The vegetable is shaped like a water melon and it grows on a vine like a squash.

Fresh fruit shipments from California are still keeping up. The Southern Pacific alone sends eastward one hundred car loads each day. The officials calculate that during the season they will ship a total of 8000 car loads.

Twelve thousand acres of land has been reserved by the U. S. Government on which to experiment in irrigation work. The land is located in the bend of the Colorado river north of the Yuma reservation in San Diego county.

The Hunt Cannery near Haywards is next to the largest fruit cannery in the world. During the busy season 1100 employes are kept at work. The average output is 3600 cases per day with two dozen quart cans to the case.

The blackleg disease is very bad among the cattle in the vicinity of Chicago Park. The hills are dotted with dead animals. A large number of men are kept busy cremating the dead bodies while others are vaccinating the healthy cattle.

Large quantities of redwood lumber is being shipped to Europe from Eureka. Last Saturday the "Grasmere" carried 869,049 feet of rough, clear redwood lumber, valued at over $25,000. This cargo makes a total of 3,311,343 feet, valued at $86,073.49.

The Davisville Almond Growers' Association has sold the entire almond crop of its members .. the following prices: Nonpariel, 10¾ cents; I. X. L., 10⅛ cents; Peerless, 9; Routier, 8; Drake, 8 8-10; Ne Plus Ultra, 9⅞; Texas Prolific, 8¼; Languedoc, 8¾; Golden State, 8¼.

Three years ago A. Hagirman, of Livermore, planted the Moravian barley as an experiment. The first year's yield was 350 pounds from a five pound sample; the second, 8000 pounds from 350 pounds of seed. The barley this year reaches the standard weight of fifty-four pounds to the bushel.

A count taken by Prof. Clarke this week of the wormy fruit on a properly sprayed Gravenstein apple tree and that of an adjoining tree which had not been sprayed showed the former to have but 3-10 of one per cent. of wormy apples while the latter showed a 14 per cent. loss.—Watsonville Pajaronian.

NATIONAL BEEKEEPERS.

The National Beekeepers' Association have held their thirty-fourth annual convention in the city of Los Angeles this week. There was an informal gathering largely of California beekeepers, discussing California marketing problems and other local questions on Tuesday. This was in charge of the California National Honey Producers' Asociation which handles most of the output of this State. This is purely a co-operative organization of the producers.

The subject of cans or barrels as a means of packing was discussed, and sentiment was divided. It is said by those who have experimented that the barrel would affect a saving of about half in the present cost of packing.

On Tuesday evening the formal welcome and reception was tendered to the National Association. The orchestra of the First Methodist Sunday school furnished the music, much to the pleasure of six or seven hundred people gathered there. The meeting was calld to order by T. O. Anderson. of the State Association, and welcome was extended to California by Prof. A. J. Cook. Pres. W. Z. Hutchinson of the National Association made a brief response, as did J. W. York, secretary of the National Association. Other short talks were made by A. I. Root, Dr. Miller and Mr. France. Wednesday morning the business of the session opened in earnest with Pres. Hutchinson in the chair. The election of officers resulted in J. V. Harris, of Grand Junction, Colo., being elected president; Chas. Dedant, of Hamilton, Ill., vice-president; Geo. W. Brodbeck, of Los Angeles, secretary.

One of the features of Wednesday were the talks on co-operation. It was led by Prof. Cook, who showed the great advantage of proceeding on the same or similar lines to the Southern California Fruit Exchange, and to further strengthen his position, called on J. A. Reid of the Semi-Tropic Fruit Exchange, to give the work of that system of marketing productions. J. F. McIntyre, of Sespe spoke on "How to Make a Production of the Extract of Honey. A. I. Root of Medina, Ohio, J. S. Harbison of San Diego, N. E. France of Wisconsin, Homer H. Hyde of Texas, and other noted bee people spoke.

The attendance was most gratifying, there being over 200 delegates and representatives of every State in the Union. The annual production of the Beekeeper's represented amounts to over $25,000,000.

The Campbell Visitor says: "It is really amazing the magnitude of the fruit business of this county, and to think it is but one of the many fruit counties in California. Just take the packing houses along the railroads from Los Gatos to San Jose—a distance of ten miles or less. Los Gatos has the Hooke Cannery Company and the Curtiss Packing Company. Campbell has in súccession the Campbell Fruit Growers' Union (the largest fruit drying plant in the world), the Central Santa Clara Packing Company, the J. C. Ainsley Packing Company (which send over 1,000,000 cans of fruit to England yearly), the Royal Packing Company just north of town, and scattered along the track toward San Jose are the following very extensive fruit concerns: George F. Frank, George N. Herbert, Santa Clara County Fruit Exchange, California Canneries Company, the Ernst Luehning Company, and the Griffin & Skelley Company. The output of all the large concerns is beyond belief to one unacquainted with the magnitude of the fruit business as carried on in Santa Clara county. Then around the railroad track in San Jose fruit warehouses string out in great length. From present appearances it won't be very long before the entire track between here and San Jose will be lined with warehouses of various kinds.

Every farmer boy wants to be a school teacher, every school teacher hopes to be an editor, every editor would like to be a banker, every banker would like to be a magnate, and every trust magnate hopes some day to own a farm and have chickens and cows and pigs and horses to look after. We end where we began.—Saline County (Kan.) Index.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

Continued.

We now have the great phylum or branch arthropoda well before us. We note that they have jointed bodies with jointed feet, which is true of no other animals. We note that the insects breathe air and so differ from crustacea. They have six legs always when mature, and so are unlike myriapods with their numerous legs and different from spiders which, if we except mites, always have eight legs, and though the mites have six legs when they first hatch, they always, after the first molt, have the eight legs.

All the air breathing arthropods except spiders have antennae, while insects alone of these classes have in maturity compound eyes. They often have the simple eyes, while myriapods and arachnids have no other. The insects or Hexapoda are well separated by having a distinct head, thorax and abdomen, and are peculiar in passing through quite marked transformations. We have seen, however, that some go through much more complete metamorphoses than do others. When mature, insects are generally characterized by wings, and we have seen that some have mouth organs fitted for biting. We say that these have typical mouth organs, and are mandibulate. Others have these organs modified to fit them for sucking and so are called haustellate.

* * *

Lace-Wings or Neuroptera—These are most familiar to us in the dragon flies, or darning needles, or devil's darning needles as they are variously called. All have noticed their graceful flight, as they curve about the ponds or reservoirs, or swoop down on their insect prey. The lace-wings are well named, as all four wings are netted veined. That is, they not only have the long veins that stretch from base to tip of wings, but very numerous cross-veins, so that each wing, and there are always four, looks not unlike lace or a net. Usually the front or primary wings are largest, but in many lace-wings, and in these dragon flies, the reverse is true; the lined wings are the larger. The scientific name which the great naturalist, Linnaeus, gave to this order, Neuroptera, is also very happy, as it means nerve-wings, referring to the numerous nerves, or the ample neuration. As in all orders, so here, there are many that have no wings. This is true of the workers and soldiers among white ants, though the queens and males have the netted veined wings. We must remember that the white ants are very different from the common or true ants, which latter belong to the same order as do the bees and wasps.

These lace-wings also have typical mouth organs, and so are mandibulate. We note the large upper lip or labrum, under lip or labium, which in the larvae and pupae of dragon flies is very long and curiously modified. It looks not unlike a long-handled dipper, and the handle is possessed of a hinge, so the bowl part of this curious animal dipper can double over and cover and hide the strong jaws. When our picnic was held last spring at the Curtis or Edgemont ranch one of the Curtis lads showed me this curious arrangement, which he had discovered, and wished me to explain it, which I was glad to do. The two pairs of jaws, mandibles and maxillae, which, as we remember, move sidewise, are very large and strong, so that these young dragon flies are well armed for their savage work, as they are powerful marauders in the pools and ponds and capture and devour many a smaller and often a larger inhabitant of the self-same pool.

All lace-wings or neuroptera have the typical mouth organs which fit them well to capture and devour their insect prey, for as we shall see all the insects of this order, if we except the one family of white ants are insectivorous, that is, all feed on other insects and so we may say all are our friends. The dragon flies, however, carry this a little too far, as they often catch and feed on the honey bees. This is specially true in the Southern States, where no little harm is done. Yet even these dragon flies do more good than evil, and that too in regions where the evil is most conspicuous.

In transformations, some of the lace-wings are complete, as we note in the ant-lions and aphis lions, while in others the metamorphoses are incomplete, as we notice in the dragon flies. The former we know as neuroptera proper, the latter as pseudo neuroptera, or false neuroptera. Thus we have these two sub-orders of the great order of lace wings or neuroptera. The larvae and pupae are very different from the imago in the first, and the pupae are inactive. While in the second, as seen in the dragon-fly family the larvae, pupae, and imago are much alike, and the pupae are always active, with habits like those of the larvae and imago.

Since I gave the talks here at Long Beach on insects I have heard of more than one boy and girl who are taking an earnest hold on the study of insects. I hope others are commencing, and that many will be led by these articles to the same pleasurable study.

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GOOD CULTURE.

Mrs. S., Long Beach, asked me to visit her lemon orchard, and advise her as to the needs to make it more vigorous and profitable. I found it well marked with variegated leaf and dieback. It is somewhat foul with scale but not enough to explain its unthrift. The cause of its decline was not far to seek.

It is crying loud for good, thorough deep culture. The land is rich clay loam, yet it is hard and intractable. There is no chance for the air to penetrate, and so bacterial action, or the necessary nitrification is almost wholly absent in the soil. Again the capillary tubules are all intact, and the loss of water through evaporation is enormous. The adoption of good thorough tillage with a generous application of stable manure to furnish humus and loosen up the soil would pay a tremendous per cent on the outlay. Mrs. S. asked me if I would spray, and if so when. I answered that it were well to kill the black scale, and that a single spraying about the 25th of August would kill nearly if not all, if it is thoroughly done, as the eggs were nearly all hatched and as yet all were so immature that all would be killed. Yet I would hesitate to spray an orchard in such unthrift, as it would surely drop many leaves. The first thing is to mellow up the soil and give a good deep irrigation; then as the trees brighten up, give a good spraying with a 2½ or 3 per cent distillate spray.

* * * *

THRIFTY CONDITION FOR SPRAYING.

I visited several of the orchards about the sightly Signal Hill, south east of Long Beach. That it is a splendid citrus region is apparent to the trained eye, and is also shown by such splendid orchards as that of Mr. Sommers. Here good culture and excellent thrift are companions. Some others look sickly. Such orchards will give no profit and are an eye-sore to the passer-by, and a blot on the landscape. I saw one orchard in this ill condition that was being sprayed. Spraying such orchards will give ill repute to spraying as they will drop their leaves. No orchard should be either sprayed or fumigated, except when in first-class thrift, and no orchardist can ever afford to have his orchard in any other condition.

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SECURING BULLETINS.

Yale I. Thorp, Norwalk, asks how he may procure Bulletins. I am glad to answer, and urge all to secure these valuable helps. For State Bulletins write Dr. E. W. Hilgard, Department Agriculture, Berkeley, California; for United States Bulletins address Department of Agriculture, Washington, D. C. The Bulletins of Florida are of great value in our state. One just issued on White Fly, aleyrodes citri, should be carefully read by every orange grower in California.

* * * *

BEE MOTH.

S. A. Hinkle, Pacific Beach, asks how to keep bee-moth caterpillars from disturbing the bees and how to rid a colony of them. Good strong colonies will rarely be injured. Thus a good bee-keeper will have little concern. In looking over a colony, if a caterpillar is seen it should be dug out. If a colony is badly infested (it will usually be a weak queenless colony) the bees should be shaken off and the comb sulphured to kill all the caterpillars. The sovereign cure is: "Keep all colonies strong."

* * * *

HORTICULTURAL COMMISSION.

It was my privilege to attend the monthly meeting of the Horticultural Commissioners and Inspectors last Saturday. The report on the South African chalcid—Scutelista cyanea—was very encouraging. Mr. Wood's discovery that the Rhizobii were exterminating the Pulvinaria scale in the apple orchard about Downey, where it is a serious pest, was very interesting. Surely these monthly conferences are very valuable.

COMBINATION OF ORCHARD AND DAIRY.

Continued from first page)

again sorted into three grades, fancy, choice, and standard; or Mr. Leffingwell's brand is "Triple L," Triple X," "Triple E," respectively. There is no grading as to sizes until it reaches the bins of the packers, that is, except the invariable grading which is done in the orchard as the fruit is picked.

One handicap of Mr. Leffingwell's economical handling of lemons has been the haul of four and a half miles to the railroad, but now with the electric line running its grade stakes across the corner of the ranch, he hopes he may be able soon to have a siding running direct to the packing house, and to switch the refrigerator car over the electric line from the main overland railroad. As it is now, four four-horse loads are required to transport to the railroad packed fruit for each car. It is all done, however, on wagons provided with springs, so that the fruit reaches the cars all in good condition.

The system of pruning is illustrated by the photo of one of the 7-year-old trees. E. A. Williams has charge of the pruning under Mr. Leffingwell's direction. The system is a modification of the Baromo method. That is instead of having four main leaders with one general head he prunes out from the four leaders then encourages from the center another system of leaders, thus giving "decks" which may amount to four or more as the tree gets older. The general form of the tree is shown in the cut on first page.

From the lemons we turn to the dairying feature of the ranch. This was started by Mr. Leffingwell more as a fad than with the idea of profit. But it has proved one of the best paying features of the ranch. On the dairy page of this issue will be found a cut of Winksetta, which is the pride of the ranch, and on first page appears Sergeant Fox, the head of the herd. There is also Vela Hastings, whose report as a dairy cow is a most enviable one. Another heifer from Brown Bessie's Marigold is supposed to have a future, which will make a reputation outside of this ranch. The cream is separated on the ranch, and in fact the products of the dairy are consumed on the ranch. Notwithstanding this, care in the dairy is equal to that where the product goes to market.

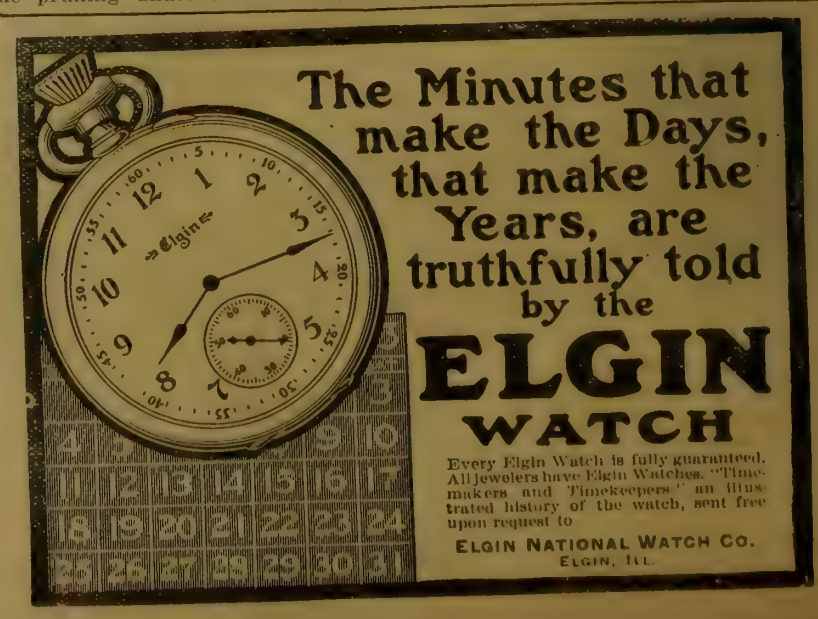
The cost of lifting the water is so great that Mr. Leffingwell has never raised alfalfa on his place, but grows most of his own feed in the form of corn. Sometimes he uses it as silage, but at present it is being used as fodder. Another feed is in mangles and other root crops. Of course to supply nitrogen a limited feed of bran is given each day, and occasionally alfalfa is bought.

The manure is hauled direct from the stables without composting to the fields and spread. Mr. Leffingwell considers that there is no loss as there may be in composting, and there is economy in handling at once and placing where it does the most good. To further utilize the waste of the dairy, a large herd, nearly seventy, of Berkshire hogs are kept, and at the head of the herd of one of Session's prize winners. These various departments of the ranch are each under the charge of a manager, and Mr. Leffingwell keeps an oversight of even the details of the business. In addition to Mr. Gray, the foreman, and the others mentioned, Mr. Fairchild, is bookkeeper and secretary to Mr. Leffingwell, and aids in keeping the accounts of the ranch.

A large number of viticulturists of the Calistoga district held a mass meeting on the 12th inst., at which they passed the following resolution:

"We, the viticulturists of Calistoga and vicinity, in mass meeting assembled at the Hotel Calistoga, August 12th, for the purpose of discussing the new and mysterious disease claimed to exist in our vicinity by Professor E. H. Twight of the Agricultural Department of our State, do hereby resolve that we know of no new and mysterious disease in this county.

A secret meeting of the wheat buyers of the North Pacific Coast was held at Tacoma tne 12th inst. They agreed to advance the price of flour 20 cents per barrel. They claim that while there is a shortage in the wheat crop yet wheat is in this country two cents per bushel above what the foreign market will stand.



California Horticulturally...

John Isaac, Sacramento

PRUNE CONDITIONS IN SANTA CLARA.

Prune conditions through the Santa Clara valey continue to improve as the season advances, and while there will not be a full crop of prunes through this section, the crop is turning out very much better than was looked for in the beginning of the season. It was then stated that the output would fall to one-half or one-fourth of a full crop. We now learn from parties who have covered the field and who are competent to judge, that there will be a fairly good crop in the valley as a whole, and that the fruit is running very much to large sizes. In a few small locations trees are bearing very slightly, and it is this that will bring down the average. The question of a profitable market is still a serious matter, but with a short crop reported from the prune sections of Europe, there will probably be a demand for California stock there, which will stiffen the local market. The prune growers are alive to the fact that in order to get any sort of a price for their products they must work together and efforts are making to bring them together in some sort of acceptable organization.

* * *

ENEMIES OF SAN JOSE SCALE.

Entomologist Marlatt, of the Department of Agriculture, at Washington, has introduced from China a lady-bird enemy of the San Jose scale from which great results are expected. This is the Chilicorus similis. The same insect was introduced into this state some ten or twelve years ago by Prof. Koebele, during one of his expeditions in search for beneficial insects for the State Board of Horticulture. It was established in several parts of the state, but afterwards no track was kept of it, as a much more efficient enemy of the San Jose scale was found in the Aphelinus fuscipennis, a very small internal parasite which working inside of the scale destroyed the eggs of the pest and soon reduced it below the danger line. The San Jose scale is no longer a pest in California, and even in the section from which it derives its popular name it is almost impossible to find examples of it. The little internal enemy started its work some twenty years ago, and it was a long time before it overtook the scale, but gradually the scale began to disappear and few people knew why. Some who ascribe everything to our climate, said that was the cause, that we had so good a climate that no bad thing could exist in it, while all good things thrive. But for all that, the San Jose scale got a foothold here and spread in the same climate in which it afterward disappeared. It may be that the Aphelinus will not do so well in the east as in California, and that the lady-bird may prove an efficient check on the pest there. With our long seasons the Aphelinus has from one to three more broods in a season than it does in the east and this is a great advantage to it in its work. The little fellow, however, has done some good work in the east and in a report made by Prof. W. G. Johnson, now editor of the American Agriculturist, before the Association of Economic Entomologists, some few years ago, he spoke very highly of the work of this parasite and entertained hopes that it would accomplish in the east what it had done in California.

* * * *

SOME HINTS FOR YOUNG FRUIT GROWERS.

The young orchardist, who has a new orchard to lay out, has many advantages over the older men in the business, in that it will not be necessary for him to carry on any costly experiments. He has before him the examples of the successful fruit grower and is enabled to avoid all the mistakes that have strewn the way to success with wrecks and losses. He knows just what varieties to put out for profit, just what kinds will do best in his particular locality. Planting, pruning, and cultivating are now reduced to a science and we know just how to do it. But in making these discoveries there have been endless experiments and countless failures. The new man is sure of his footing. His neighbors have shown him the way and he has the opportunity to establish an orchard and that his neighbors can never hope to approach. And it will well repay any one who is thinking of embarking in the orchard business to study the conditions of the neighborhood where he intends to locate and to visit some of those who have fought their way to success in that section and get some practical hints from them. And so liberal are our fruit growers as a rule, that they willingly give away knowledge that it has cost them hundreds of dollars in time and losses to acquire. There are yet ample opportunities for success in fruit raising and while there may sometimes be seasons of depression, the fruit acreage will continue to increase and a paying market be found for the product. But it is imperative that the man new to the business avail himself of the experience which has already been acquired and he will then avoid fatal mistakes. He should first decide as to what section he intends to locate in, then what varieties do best there. If it is in the early section, he wants to grow early fruit for the market, if in the interior valleys then he must grow canning or drying varieties. In some sections grapes do best, in others prunes, and so on and he will do well to conform largely to the varieties which experience has demonstrated are best for that special locality. There are at the present time many people investigating the fruit industry in the northern counties and a few hints of this kind may be of service to them.

WHITEWASH.

A good whitewash for chicken house, barn or fence is made as follows. It's old and has been given before but will bear repetitnon:

A good whitewash can be made by slacking ½ bushel of lime in warm water and enough cold water to make it thin enough to spread well. Add to the mixture ½ peck of salt, and stir until dissolved. Strain through fine sieve. This can be put on with a brush or more quickly with a spray pump if the surface is rough.

Some people head off a fit of misery by finding fault with other people.

If you get the worst of it make the best of it.

INSURANCE AT COST

We are furnishing Insurance to the farmers of Los Angeles county that is

Safe, Sound and Conservative

Over 2,000 farm buildings in this county are covered by policies in our company, at a cost, during the past four years of only 5 cents per hundred dollars per year. Why pay big salaaies and dividends to eastern officers and stockholders? Before your present policy expires drop us a postal card and we will send you full information of the mutual plan.

LOS ANGELES COUNTY FARMERS MUTUAL FIRE ASS'N

Chartered by the State

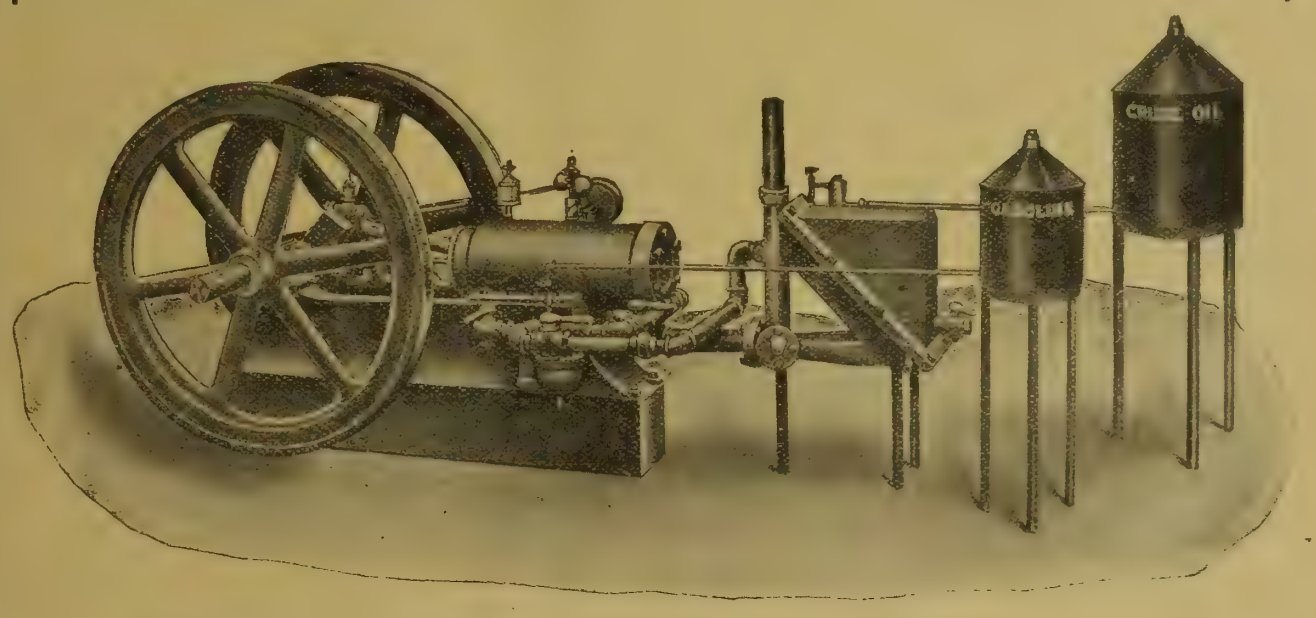
G. F. CROMER, Secy.

207 Currier Bldg. Los Angeles, Cal.

Most of us are in sympathy with that man who said the problem of his life was how to make both ends meat.

Samson Crude Oil Engines

Are the most reliable and simple engines for all purposes. With our crude oil generator attached, as shown in cut, it is the cheapest power on earth.



We are continually attaching our generators to other makes of engines, even to those which already have crude oil generators, because ours is simpler and requires no attention after the engine is started.
We also manufacture centrifugal pumps of the highest efficiency, for which the SAMSON has a high reputation.

Complete Irrigating Plants

ARE OUR SPECIALTY

We can furnish you just what you need, and can tell you your requirements, as our experience is very large. When you buy the Samson Engine and Pump you get the best, and it costs you no more than would other makes that are often times unreliable. Every part on our engines and pumps has been thoroughly tested and no parts of them have ever broken.

We are continually making extra parts for Eastern-made engines, as we can prove to you if you will call at our works. These parts are expensive to the owners of such engines, and should be taken into consideration before buying.

We have this harvest season placed (4) of our Samson special made harvester engines on combined harvesters owned by J. Brack, Jr., Lodi; W. Journeay, New Hope; Warren Fowler, Lodi; A. A. Sturgeon, French Camp. These engines have made a record for us and have proven what the Samson is. Fifty acres are being threshed daily with each of these rigs and the expense of operation is not as much as with horse power.

We are soliciting orders for these engines for next season. Give us a call when in Stockton, or drop us a card and we will call and see you.

Samson Iron Works Stockton, Cal.

By J. W. Mills, Ontario, Cal.

NORMAND'S YELLOW PLUM.

Editor Cultivator—Under separate cover, I send you a plum over which there is some dispute as to name. I wish you to identify it. It is an excellent plum and I wish to know positively before planting out any trees. Should I wish to work peach trees over to plums or peaches, which is the better way, to graft, or bud?

E. H. Fosdick, Los Angeles.

The plum you send is Normand's yellow, and as you say, is a good plum. It is a Japanese plum that will bear itself to death if allowed to. The quality is always good if given sufficient water, but will become mealy if allowed to suffer for water.

We very much favor cutting off the tops of either peach or plum trees and budding the sprouts when it is desired to change them to some other variety. This is especially true in the case of branches over one inch in diameter. If a graft will not heal or grow over the top of the stump within six or eight months from the time it is inserted, the heart of the stump is sure to decay. That weakens the tree and makes it short lived. Grafts which finally grow over a dead stump do not remain vigorous.

* * *

BLIGHTED LOGAN BERRIES.

Editor Cultivator: Some time ago I saw an inquiry in the Cultivator regarding blighted Logan berries. I lost about one-third of a crop this year from a blight and should like to know some remedy. The vines are on gravelly ground but have been fertilized some and are in fairly thrifty condition.

The berries began to blight when the crop was about half ripe and the thriftier vines seemed to blight as bad or worse than those on the lightest soil. I enclose a sample, and while they are from the second crop, they seem to be affected the same as the former. Walter W. Coke, Pasadena.

The berries arrived in fairly good condition, but the disease that caused them to blight in all probability does not affect the fruit directly. Nearly, if not all of the blights, except sunscald, result from interference with the flow of sap. The blights that are so destructive in berry patches of the East, come from a growth of bacterial disease within the plant. Raspberry anthracnose affects that berry just as you describe the trouble that you have with your Logan berries. If you will send us some of the canes on which the berries were blighted, we may be able to give you some information on the subject. Send the specimens by mail to the Southern California Agricultural Experiment Station at Ontario, and we will give you definite information on the subject.

* * *

THE BEST STRAWBERRIES.

Editor Cultivator: Will you please inform me which are the best strawberries for color and flavor, also which are self-fertilizing and which need others set with them and which will be best to set. Oliver Thornton, Norwalk.

The list of strawberries is too long to name and tell which are self-fertilizing and which are not. Brandywine has proved to be the best market berry for the Los Angeles trade. Lady Thompson is also an excellent berry. Laxton's Noble is also taking well with commercial growers and no doubt will do well in your section. If you plant these three varieties, they (the flowers) will all be fertilized. They are, after several years trial, still being grown in the berry growing districts around Los Angeles. They are all prolific, handsome in color and are as good in flavor as any berries that we know of for commercial purposes.

For the home garden, any of the above are good. The dollar berry is a good family sort. It blooms and bears by itself during almost the entire year. The color and flavor are both good. Of course strawberries can be made very poor in flavor by injudicious irrigation. They are never so sweet immediately after an irrigation

"S. N. Caceres of National City, and T. J. Swayne of Colorado, have each planted a small grove of mulberry trees, and they are going to experiment with silk worms. If their experiments prove successful they intend to go into the business on a large scale. Can the Cultivator give any facts on silk worm culture in California?"

The Cultivator has no regular writer making a study of Sericulture, but if the business develops as there is some promise it may, there will be a future for this industry that the Cultivator will be compelled to give it special attention. We would refer the gentleman who asks these questions and any others interested to Bulletin 165, "Culture of the Silk Worm," issued by the National Department of Agriculture. This is a pamphlet of 32 pages, and will give more information than the Cultivator possibly could. Address Secretary of Agriculture, Washington, D. C.

RED ANTS.

Mrs. Swenson of Lakeside, San Diego County, asks what is the best method of getting rid of red ants both large and small?

Buhach scattered about the cupboard or in runways of the ants is usually effective. Saturated solution of bichloride of mercury painted about the cracks and borders of room and in runways is also good. Another is, dissolve two pounds of alum in three quarts hot water and apply while hot with brush as above or wherever the vermin harbor.

SPLIT PEACH PIT INVESTIGATION

The State Experiment Station is engaged in investigating the occurrence and possible causes of the splitting of peach pits in California. Definite information regarding the occurrence of the trouble is needed in order to determine, if possible, the exact conditions which bring it about. Whether it is due to some organism, fungus or bacteria or whether it is due simply to adverse climatic or soil conditions, has not yet been determined. It is therefore hoped that this circular will reach all peach growers in the State so far as practicable, and it is urgently desired that they will give all information in their possession, by filling out as fully as possible, the blanks which will be sent upon application.

The above is from a circular sent by the State University and on it are questions with blanks for answering.

From the questions we quote: Location of orchard, age of trees, varieties which have split pits, varieties free from split pits. Soil: whether plowed and when, how cultivated and when, Irrigation: when and how applied and quantity of water given. Have you observed that the production of split pits following irrigation, or have you noticed that the time of applying the water has any effect. Unfavorable climatic influences during the present season: Frost or rains during bloom, late frosts, drouth, cold or hot, dry winds, etc., also seasonable rainfall, percentages of split pits in varieties grown in 1903. Are there any individual trees or any variety in your neighborhood, which produce fruit free from splits, how long has your orchard been producing split pits.

This investigation is in charge of Prof. A. V. Stubenrauch, who desires to get in touch with all peach growers.

HOW TO BE POPULAR.

Don't contradict people, even if you're sure you are right.

Don't be inquisitive about the affairs of even your most intimate friend.

Don't underrate anything because you don't possess it.

Don't believe that everybody else in the world is happier than you.

Don't conclude that you have never had any opportunities in life.

Don't repeat gossip even if it does interest a crowd.

Don't go untidy on the plea that everybody knows you.

Don't be rude to your inferiors in social position.

Don't overdress or underdress.

Don't jeer at anybody's religious belief.

LONG BEACH BUSINESS AND CORRESPONDENCE COLLEGE

A select, high-grade school, modern in equipment and methods. Comprehensive and complete Business and Shorthand courses under superior instructors. Delightful location in favorite seaside suburb of Los Angeles; healthy, inexpensive. Enter at any time; catalogue free.

Long Beach Business College
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SHADE TREES

We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand

Roses, Palms, Ferns, Vines, Ornamental Shrubs, Etc.

Write for Catalogue Free

Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
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LARGEST CITRUS NURSERIES IN THE WORLD
Trees True to Name; Standard Varieties; Catalogue Free.
R. M. TEAGUE SAN DIMAS CITRUS NURSERIES San Dimas, Cal.

Largest Nursery
West of the Rocky Mountains

CALIMYRNA FIGS
(Genuine Smyrna Fig of Commerce)
The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.
Deciduous, Citrus and Ornamental Trees and Rose Bushes.
Finest and most complete Nursery Catalog published mailed for five cents postage.

RESISTANT GRAPE VINES
Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine Grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, $200,000
FANCHER CREEK NURSERIES Inc.
GEO. C. ROEDING, PRESIDENT AND MANAGER
P.O. BOX 14 FRESNO, CAL.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith, 129 North Los Angeles Street, Los Angeles, Cal.

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes. Complete Irrigation Plants

EARLY BOVEE POTATOES

Here we are with our old guarantee, true to name. I have them in the market ahead of all others every spring. Send your orders in for planting now for fall crop. September is the best month to plant. Fine quality, 2c per lb.

W. J. BROAD, GLENDORA, CAL.

700 Extra Fine Lemon Trees

Cheap. Also a few W. Navel, Valencia and Kumquats, Mandarin, Tangerine, Lime and Satsuma or Oenshiu. Headquarters for Citrus trees on Citrus, Trifoliata or Frost Resistant Stock.

WAGNER'S NURSERY

PHONE SUBURBAN 108 PASADENA, CAL.

F. H. Disbrow Nurseries

We're in the lead with **Citrus Seedlings** for season of 1904. Navels and Valencia Budded Stock, Walnuts, Ornamentals, etc.

Main Nurseries: Cor, Hill Ave. and Villa St. **PASADENA, CAL.** Branch, South Pasadena

1903 CATALOG

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East Main Street Pottery Works

Ollas, Vases and artistic Pottery, and Pottery for Floral Plants. Fancy Hanging Baskets and Wall Baskets, Etc., Rose Propagating pots a specialty.

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Opp. East Los Angeles Brewery Co. Near Avenue 20

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Take East Lake Park Street Car.....

5,000 to 10,000 Citrus Trifoliata Seed Bed

Plants. Good, thrifty stock in fine condition for planting now. One year old plants. Six to ten inch at $15.00 per thousand.

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ONTARIO, CAL.

Land Plaster FOR SALE

AT THE

California Portland Cement Co.'s PLANT,

$7.50 PER TON

California Portland Cement Co.,

401-403 TRUST BLDG., LOS ANGELES, CAL.

FERTILIZER CONTROL Unbiased Expert Advice

We are directing the fertilizing on many groves, and among our clients are some of the largest, oldest and most successful growers in California.

IT WILL PAY YOU AS WELL

Having no connection with any producers of fertilizers we are unbiased. We advise when and what ingredients to use. They can be obtained from any fertilizer dealer.

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THOS. C. WALLACE

Riverside, Cal. Phone James 1611 **Los Angeles, Cal.** Phone Black 611

CLIMATE AND CROP REPORT

Condensed from the weekly Bulletin issued by California Section of the Climate and Crop Service, in charge of Alexander McAdie.

Sacramento Valley—The weather during last week was comparatively cool, but favorable for fruit and all farming operations. Grain harvest is completed except in a few places, and thrashing is progressing rapidly. Hop picking has commenced in some sections and will be general during the present week. The cool weather has been beneficial to deciduous fruits, which have developed slowly and are of good size and flavor. Grapes are ripening rapidly and harvest is progressing in some sections. Early grapes are being shipped in carload lots from Sacramento. Citrus fruits are in good condition.

Coast and bay sections—Cool weather continued during the week, but a higher temperature prevalied at the close. Fogs in the coast districts beneficial to hops, corn and potatoes. Hops have made wonderful improvement recently and the crop will exceed early estimates. The cool weather has retarded the ripening of grapes. Picking and shipping are in progress. The peach crop in Sonoma county is very large; it is reported that many tons of the orange clings will go to waste, as the canneries refuse to handle them.

San Joaquin Valley.—The weather during the past week has been clear and warm during the day, and cool at night. The fruit crop is ripening fast. The deciduous fruit crop is of excellent quality, but in some sections lighter than last year. Watermelons are being shipped in large quantities from the Fresno district. Potatoes and onions are a good crop. Egyptian corn will be a large crop. Stock of all kinds are healthy and in good condition. Irrigating water is scarce.

Southern California.—Warm, sunny weather prevailed during the week in the interior, but along the coast it was cooler and foggy. Heavy crops of wheat, oats, barley and hay are reported in nearly all districts. Sugar beet harvest is progressing rapidly. In the vicinity of Anaheim the crop is somewhat lighter. Beans, corn and vegetables are doing well. Peaches are maturing, and other deciduous fruits are in good condition. Walnuts are dropping, owing to blight. Citrus fruits are thrifty, and young oranges are showing satisfactory growth.

Eureka Summary.—Grain threshing and hay baling are progressing. August unusualy cool and cloudy along the coast where grain ripened slowly, but very rapidly in the interior. Vegetables yielding average crop.

The California Portland Cement Company is now enlarging its plant and will soon be able to turn out from 600 to 1000 barrels of cement per day. The present output is about 450 barrels. The improvements now being made will increase the capacity to the full 600 barrels, this with other improvements will enable this company to keep pace with the vast demands of this product. Competent engineers have declared this cement to be one of the strongest and the best cement for foundation work, there is made. Lately the demand has been so great that by running the machinery to its fullest capacity, it has only been possible to keep in sight of the advanced orders.

De worst ob de imitation ladies isn't always found among de scrub ladies or de kitchen maids.—Son.

BEE SUPPLIES—G. G. Wickson & Co, 123 N. Main Street. Los Angeles, Cal.

TO FIX PRICES ON PRUNES.

The Farmers' Club held a largely attended meeting at San Jose last Saturday to hear the reports of President F. W. Crandall of the Sorosis Fruit Co., and Col. Philo M. Hersey, President of the Santa Clara County Fruit Exchange, who had just returned from a long trip to Europe and the east to get at the exact status of the market conditions and what they could expect in the way of demand and prices.

Both speakers agreed that growers should not sell nor contract to sell unless they got good prices. The merchants are willing to pay a good price provided they know that competitor cannot buy at a lower figure. There is very litle holdover from last year, and Bosnia and Servia will be short; France will be very short, not only on prunes but on apples and all other fruits. In the Eastern States apples are short everywhere with the exception of Michigan and New York.

In foreign markets the California prunes well packed, true to number and not loaded with sulphur, were gaining over its continental competitors.

Col. Hersey said the growers should get 3⅛ cents or more as a basis price. This would leave two and three-fourths cents net to the grower. He thinks an even higher price can be secured, but there would be danger of a large holdover.

Mr. Crandall said the price did not depend upon New York merchants, but on the California growers. He urged that growers stand together and not sell until a price could be agreed upon.

At the meeting a committee of five were appointed to establish a bureau of information on crop and market conditions.

* * *

On the same day the above meeting was held at San Jose, the growers from around Los Gatos held a meeting to organize a co-operative company, when an organization was perfected and nearly 300 tons of fruit were pledged, with prospects of 200 tons more to be added. This organization will install its own grader and packing machinery.

* * *

The San Jose Mercury says the prices set by the Campbell Fruit Growers Union for this year's prunes are three and three-fourths cents basis for four sizes for the October delivery.

STATE FAIR NOTES.

All those interested in the raising of the standard of livestock in this State should attend the State Fair. A higher degree of general excellence in dairy and beef cattle means the addition of many thousands of dollars in value to the farmers and dairymen of the State.

From present indications the demand for room for stalling livestock designed for exhibition at the State Fair will tax heavily the ability of the Society to furnish it as so many have signified their intention of bringing stock to the Fair. Last year a number of additional sheds were constructed at the Park for the accommodation of pure-bred beef and dairy breeds of cattle.

Prof. W. L. Carlyle, of the Bureau of Animal Industry of Wisconsin, who gave such universal satisfaction by his judging of stock at the State Fair last year, has been secured again by the Directors for the approaching Fair.

Breeders of livestock are taking great interest in the coming State Fair and California breeders will not have a walkover, by any means. Parties from other States who are engaged in breeding fine cattle have signified their intention of coming to this State to contest the palm of superiority with home breeders. Oregon will send a herd which has cost the owners a fabulous amount of money.

The exhibits of pure-bred fowls at the approaching State Fair promise to exceed in magnitude aything hitherto made in this part of the State, as promises of over two thousand of all varieties have been received, including both land and water birds, and the competition for prizes is sure to be keen.

The apiarian department at the State Fair promises to be an interesting one.

We can help make people bright by our keenness, but we can never accomplish anything toward making people good except by our tenderness.—C. H. Parkhurst, D.D.

Don't believe all the evil you hear.

NAMES OF FARMERS WANTED.

We want every farmer to read "THE PACIFIC TREE AND VINE," one of the best journals on horticulture, poultry, dairying and home-making published in the West. Twenty-first year. Thirty-two large pages. Subscription 50 cents. Send us five names and addresses and 10 cents for a six months' trial subscription to 918 I street, San Francisco, Cal.

Scott's Wax A SURE CURE FOR Gum Disease

Made after the formula of Mr. John Scott, late Horticultural Commissioner, by

S. M. WOODBRIDGE, Ph. D., So. Pasadena, Cal.

DIRECTIONS—Cut away the diseased parts of the tree, allow to dry, and apply melted wax with a brush.

Citrus Stock

A FINE LOT

FOR NAVELS VALENCIA NAVELENCIA LEMONS **1903**

MILLS & MASTERS

J. MILLS, MANAGER

RIVERSIDE, CALIFORNIA

The Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

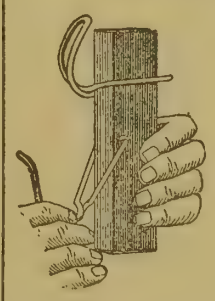
We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,

Station K, **LOS ANGELES, Cal.**

Be Sure and Get



Woodward's Adjustable Prop Bracket

The Only Bracket That Will Adjust Itself to Any Prop

They are cheaper than any other Prop Bracket that can be made, and will positively not get out of order. No nails or splice to break; no time spent in repairing; can be padded if you wish without nailing. Stand props as near the bottom of trees as possible and they will not be in the way of cultivation. If the Bracket is sprung apart so as to go on partway of the Prop it will take a side hold and will never slip. If the Bracket should be too loose press the sides together so as to make a little friction on the sides of Prop and it will stay in place better while being put up.

Having reduced our price to $17 per thousand, we would be pleased to have a continuance of your patronage and can fill all orders promptly.

J. K. Woodward & Co.

171 NinthSt. Riverside, Cal

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

DECAYED TOOTH.

Editor Cultivator:—I have a Jersey cow 9 years old which came fresh in April, appeared all right but was thin in flesh and did not give much milk; had her dehorned about May 1. She bled profusely but not long and soon after had a swelling on one side of the left jaw; it goes away and comes again. She eats slowly and don t eat more than one-half as much as the other cows, chews her cud as if she had bone in her mouth. The saliva runs out of her mouth, but not very much. She is always loose in her bowels, drinks only every other day. She is getting very thin. Please answer through the Cultivator.—J. D. S., Escondido.

Extract the decayed tooth or irritating object in her mouth, and keep her milking.

CONJUNCTIVITIS.

Editor Cultivator:—A valuable young mare has running eyes. Afflicted for the past year. Under lids are pinkish, sometimes swollen. Is becoming near sighted, shies constantly. Perfectly healthy otherwise. —C. B., San Jose.

Take of sodium hyposulphate 10 grains, distilled water one ounce. Use a quill, camelshair brush and put two or three brushfuls in the eyes three times a day, by holding the lids open with thumb and fingers. Continue the treatment for some time.

California produces seeds to the value of more than $2,000,000. We dictate prices to the world in onion, lettuce, celery and sweet pea seed. In Central California there are about 15,000 acres devoted to the raising of plant and flower seeds.

The Agricultural Department of the State University has received many complaints from bean growers and others of the ravages of small insects.

There is shipped to Eastern markets from California each year from 200 to 500 car loads of honey.

It is now calculated that the total apricot crop of California this year will aggregate about 500 car loads, or only about 40 per cent. of the output last year. Of this amount Ventura county has over 100 car loads.

The California Promotion Committee for nine months ending June 1, 1903, received 42,873 letters inquiring about California. Of this number 4303 came from New York; 3194 from Ohio; 2947 from Pennsylvania.

Orange county has the distinction of having so far raised the largest water melon in California. It weighed 150 pounds and measured five and a half feet in length and four feet and nine inches in circumference.

At this time California has 3,925,000 acres of land under irrigation.

In the canning establishments of Fresno recently the girls employed frequently complained of colic. Dr. Aiken, the City Health Officer began an investigation and found that considerable quantities of caustic soda solution was used to quickly peal the fruit. It is believed that it is this process which affects the health of the employees.

The State Board of Health will take steps to interest the authorities of every city in California in a campaign of extermination of rats as they are unquestionably breeders of disease and spreaders of contagious troubles.

The Pacific Sealing Company report that the salmon pack this year will be short. So far out 98,000 cases have been packed—a shortage of 125,000 as compared to the catch at this date last year.

O. C. Hyatt, of Oakland, has invented a "fruit-picker." The contrivance is attached to a pole and has a finger lever and wire attachment that manipulates a cup-shaped receptacle for the fruit.

DAIRY AND LIVE STOCK

C. B. SESSIONS, ASSOCIATE EDITOR

GREATER CARE IN HANDLING MILK.

The Illinois Agricultural Experiment Station has issued a bulletin of hints on the exercising of greater care as to cleanliness in the dairy. From a sanitary standpoint there is need of improvement.

From the bulletin we quote: No other food will absorb bad odors so quickly as will dairy products, or deteriorate more rapidly under adverse conditions.

Milk being an excellent medium for the growth of bacteria, it is of special importance that it be kept as free from germs as possible.

No other food is produced under conditions where it is so difficult to prevent contamination.

Since the largest amount of contamination comes from the udder during milking it is important that all udders be washed before milking. In the production of milk for direct consumption this is imperative.

The average weight of dirt which falls from muddy udders during milking, is 90 times greater than that which falls from the same udders after washing, and when the udders are slightly soiled it averages 22 times greater.

It is essential to the production of clean milk that the cows be kept out of the mud. The barnyard should have natural surface drainage and should be covered with a coat of gravel or cinders sufficiently deep to form a hard surface at all seasons of the year.

Stables of costly construction are not necessary, but they should be whitewashed at least once a year. In order to acomplish this successfully the sides and ceiling must have a firm tight surface to which the whitewash can be applied.

The floor of the milking stable should be smooth and solid. The platform on wnich the scows stand should be of such length that all droppings will fall into the gutter, thus preventing the cows from becoming soiled when lying down. The stables should be cleaned regularly each day.

As soon as drawn, the milk should be removed from the stable to a clean room provided for the purpose and aerated and cooled at once to 60 degrees F. or below.

All dairy utensils and everything with which the milk comes in contact should be rinsed, thoroughly washed, and sterilized after each using.

Bottles used in delivering milk for direct consumpttion must be thoroughly washed and sterilized after each using to avoid the danger of carrying disease from one house to another.

Every creamery, cheese factory, dairy, and milk depot should have a solid impervious floor. The floor should be well drained by being pitched to a gutter which is connected with a good system of well-trapped sewerage.

The walls for at least three feet above the floor should be of some smooth, impervious material; if of wood above this, they should be kept well painted to facilitate cleaning.

Milk should be conveyed through open conductors whenever possible. When a pump and closed pipes are used they should be so constructed as to be easily taken down and cleaned each day.

Milk cans should be washed, and sterilized with steam at the factory, and some other receptacle should be used to return the whey and skim milk to the farm. If the cans are used for this purpose they should, by all means, be emptied as soon as they reach the farm, thoroughly washed and scalded, and placed on a rack in an inverted position with the covers off.

Dairy markets should be developed by selling products of known standards put up in such forms that the consumer will get the original package and know its grade or quality.—[Kansas Farmer.

BEE SUPPLIES—G. G. Wickson & CO., 143 N. Main Street, Los Angeles, Cal.

Dairying brings in a constant income. The man who sells crops of any kind has to wait until he can market his product once a year. There is little satisfaction in this. It is unbusiness-like to go without cash for fifty-one weeks and then have a lot of money come in at one time. The dairyman has an income nearly or quite fifty-two weeks in the year.

Skill and brain work get better pay in dairying than in any other branch in farming. To produce fine dairy products requires something besides hard work. The dairyman must have knowledge and skill, and must exercise great care.

There is more room at the top, greater opportunity to improve, than in any other kind of hard work. Cows produce from 150 to 500 pounds of butter per year, and butter sells for from ten cents to a dollor per pound. No branch of agriculture shows anything like this or gives such a chance to rise.

The first advantage of dairying is that it takes less fertility from the soil than other branches of farming.

A ton of wheat takes $7 out of the farm and sells for less than $16. A ton of butter takes fifty cents worth of plant food from the farm and sells for from $400 to $600. Comment is needless.

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from this county or adjoining counties. Must be strictly good individuals.
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WHO HAS A
De Laval Separator
is the fellow who is prosperous.

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SLEEPY HOLLOW HERD OF HOLSTEIN CATTLE

We have just received from the Eastern States two carloads of officially tested cows. This has overcrowded us for the present, and to make room we are offering some excellent young cows for sale. They are all in calf to our great herd bulls, and right now are in fine condition to ship. For full particulars write

R. M. HOTALING
Rialto Building San Francisco, Cal.

TO FARMERS, STOCKMEN, DAIRYMEN:
SUGAR BEET PULP
(Kow-Sauer-Kraut)
also MOLASSES
FOR SALE

"KOW-SAUER-KRAUT" 50 cents per ton F. O. B. cars fresh from factory. Conceded to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.

MOLASSES, 75 cents per barrel. Consists almost entirely of carbohydrates. (sugars) cheapest and best food for fattening stock of all kinds. Send for testimonials regarding feeding value of molasses for **working horses, fattening cattle** and **growing pigs** and **calves.**

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YOUNG HOLSTEIN BULLS
Percheron Brood Mares and Stallions all Registered. Write or call.
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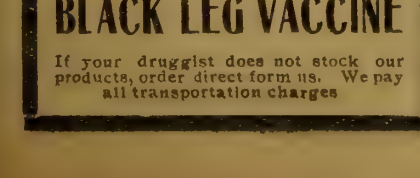

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Your land with a stick—that day has passed. The successful farmer of today uses a
Benicia Reversible Disc Plow
to turn the soil over and then keeps it in shape with one of our special cultivators. Talk it over with us, we'll help you in the selection of the best for your purpose.
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Removal Notice
OF
The Cutter Analytic Laboratory
On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from Fresno to Berkeley.
Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is
The Cutter Analytic Laboratory
Rialto Building, San Francisco
OUR SPECIALTY IS
CUTTER'S BLACK LEG VACCINE
If your druggist does not stock our products, order direct form us. We pay all transportation charges

A GOOD JERSEY.

Winksetta's Princess No. 121658 has just completed the first nine months of her milking period, in the herd of W. Leffingwell, Jr., at Whittier with results as follows: milk, 7377.5· estimated butter, 85 per cent. fat, 473.18 lbs. This record is very good on the face of it, but when the circumstances under which it was made, are considered, it is truly remarkable. Winksetta's Princess was moved thirty-five

miles to her new home during the period, and her feed materially changed. She had run with the herd in a corral, and had no especial care. Her grain ration has not averaged over nine pounds per day, and most of that was bran. She was laid up once with an abscess on her jaw, and had her hip knocked down during this period by an acident. What she could do if carefully nursed along, with forced feeding, nobody knows, but as she can handle an enormous amount of grain, and is wonderfully persistent, Mr. Leffingwell believes she could be forced to yield 60 pounds of butter in a year. Mr. L., however, does not believe in such forced tests, and values a cow only for what she can do in dairy form, on a moderate grain ration, such as will not impair her vitality or qualities as a breeder. In other words, he believes in feeding or breeding to secure permanent improvement as opposed to immediate commercial results at the expense of progress.

HOG NOTES.

With hogs, as with other stock, the cost of keep increase with age.

It is not the best of economy to feed all sizes of hogs together.

A mixed ration will make cheaper pork than corn alone.

In no case should pigs be allowed to become muddy in their nest.

Know that every hog comes to his feed at every feeding.

Pigs will thrive better on a variety of feed, including slops, than on any other ration.

If a hog is off feed, try to ascertain the cause. Try a change of rations.

A brood sow will thrive better, keep healthier, and bring better pigs if she has plenty of exercise.

If the farmer cannot grow clover, it will be best not to attempt to keep many hogs.

It is hardly possible to improve any of the standard breed of hogs by a single cross.

While a good, thrifty condition is essential in a breeding boar, an excess of fat is detrimental.

An abundance of good feed, mixed with a good deal of care and attention, will make a young pig thrive.

A sow with a mean, cross temperament is always hard to deal with, and her disposition often causes the loss of a litter.

A ground floor, especially in winter, is preferable, for the reason that the soil retains the heat and is much warmer than plank.

While it is not always best to give the boar the range of the pasture with the rest of the hogs, he should have plenty of room for exercise.

For a breeder the short-built, compact sow is objectionable, because she cannot assimilate sufficient food to maintain a large litter.

To secure good, strong constitutions, the animals should have a strong, firm bone and in size to be in proportion to the general size of the animal.

Bran, oats and oil meal, with good pasturage, makes a good summer feed for growing pigs, even up to the time to begin feeding to fatten.

Corn meal mixes so poorly that it makes a very poor slop. It settles to the bottom of the barrel or bucket so quickly that it is hard to handle with any satisfaction.

BEE SUPPLIES—G. G. Wickson & Co, 123 N. Main Street, Los Angeles, Cal.

THE FARMERS' INSTITUTE AT LA HABRA.

It was the pleasure of a Cultivator representative to drop in for a few moments to the Farmers' institute held on Monday at the school house in La Habra valley, just east of Whittier. The delightful little valley, about four or five miles wide, and ten or twelve miles long, is one of the little protected spots where nature seems to combine many good features. One thing that has always been lacking is the water supply, and it is not as abundant yet as desired, though recently a system has been completed by which many parts of the valley are reached by irrigation water.

The display of vegetables and fruits made at the school house was so large and of such magnificent production that it is apparent that the La Habra people are not absolutely dependent upon any artificial wetting of the ground. This display was composed of pumpkins, watermelons, potatoes, corn and fruits of nearly all kinds, grown without irrigation.

The attendance by the people of La Habra was such that standing room was at a premium. The program, as is usual with these institutes, was made up in part by Prof. Cook and other outside speakers, but largely by local talent. The Cultivator hasn't room for the whole program, but we wish to make a few notes from a talk made by Mr. Leffingwell on dairy farming in that section.

He asked first if that particular section is best adapted for dairying, which he answered in the negative. He said there is nothing like alfalfa as an economical and efficient feed for the dairy cow. But at the price at which water is sold in that valley, it could not be grown. He did argue, however, that as a means of livelihood, until the orchard trees are bearing, there is no equal to the keeping of a few cows; it means certain income, although, as he said, it is not the most agreeable kind of work, in that, that it is confining every day in the year, but as walnut orchards require ten years to arrive at perfect bearing age, something must be grown between the trees meantime. That is unless one has means to live by.

For feed which may be grown between the trees, he spoke of pumpkins, beets, and other root crops and corn for silage. Where five or more cows are kept, the speaker was unqualifiedly in favor of the home separator. He said that he had used it for years, and he had no thought of being without it, and would not even if he had but one cow. It required but a few moments to do the separating, and but a very few more to do the cleaning of the machine. The saving of the cream, specially in hot weather, amply justified the expense.

In the absence of alfalfa, oil cake, cocoanut meal cake were recommended; also the addition of four to eight pounds of bran to supply the needed nitrogen. This latter in case of no alfalfa feed. The yield of butter per year may vary from 150 to 500 pounds of butter. One cow of Mr. Leffingwell's gave a return of 404 pounds, worth in the market $121; another, a heifer, brought in $113, another during nine months gave a total of 7377 pounds of milk, which made 473 pounds of butter, worth $117.95.

These of course are very exceptional figures, and only possible when the very highest grade of cows are used. The average cow, handled by the ordinary rancher, should yield at least 270 to 280 pounds.

One other paper which we wish to give the benefit of later was "Walnut Disease," by E. G. Ware.

Men who mind their own business have very litle competition.

HOGS ON ALFALFA.

Editor Cultivator: Can you give any information as to how many hogs can be kept on one acre of alfalfa grown on good rich bottom land?—W. W. Vernon, San Luis Obispo.

The answer given to that question at the recent Farmers' Institute held at La Habra, was that one acre would support eight hogs. Whether this means with the best conditions, such as rich bottom lands, etc., we cannot say.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA
An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.
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REGISTERED JERSEY CATTLE
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FOR SALE
Gold Drop's Gladys, 170236. Sire, Sunmaid's Gold Drop, 34272. Dam, Lotty's Gene, 117516. Dropped Jan 4, 1901. Price $100. W. Jay Cole, Anaheim, Orange Co., Cal.

MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

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HIGH GRADE, STANDARD BRED JERSEYS
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Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
GEO. Y. COUTTS Orange, Cal.

LEMONITA HERD
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Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
Terms reasonable. Liberal reductions to those coming from a distance.
No charge for service on cows having authenticated fat or butter records.

Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
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Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices
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HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
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PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
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JERSEY BULLS OF ALL AGES
FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY - DUARTE, CALIF.

Coulson's No. 3 Condition Powder For Poultry

This is one of the Greatest Poultry Foods in the World

The secret formula was invented and is known only by A. R. COULSON, manufacturing chemist. The principal parts are compounded by him, after which they are mixed under his personal care in a large electric mixing machine which mixes half a ton of it in ten minutes. It is put into sacks, packages and cans as soon as it comes out of the mixing machine.

This Condition Powder is Different From Any Other Condition Powder or Egg Food

This condition powder has given such satisfaction that it is used the year round by over a thousand different poultrymen who buy package after package of it. Some of the largest poultrymen use a hundred pounds of it a month. They mix one small cupful in the feed for 100 fowls, which makes them digest food better and lay more eggs and keep healthy.

This Condition Powder Will Cure Sick Fowls

Quicker than any other remedy, it will cure Roup, Cholera, Indigestion, Leg Weakness, Appoplexy, Swell Head, etc., quicker than anything else as it acts on the liver and cleanses the disease and poisonous impurities from the system, purifies the blood and gives the fowls appetite and ambition. It cures roup and swell head because it breaks up the cold and also gives them appetite to eat and helps to digest what they do eat thus giving them strength and health.

When Fed to Healthy Hens

By its aid to digestion it enables the hens to get more strength out of the food; thus they will lay more eggs. Their combs will become bright red and healthy looking, showing good circulation and healthy livers. A great many hens are too fat and lazy; they should be given a good dose of this condition powder along with some protein feed and let them change that fat into eggs. This condition powder develops the pullets and gets the old hens down to business.

This is the Season of the Year That is Hard on the Chickens

A great many chickens and hens will get sick and die during the next two or three months unless the proper precautions are taken. Some will get other diseases.

Disease is easier prevented than cured.

A Dose in Time Saves Nine

To prevent disease and also to cure before too far gone put **COULSON'S NO. 3 CONDITION POWDER** in the feed, a little every day or a good dose twice a week. The moulting season is now at hand and the moult is a great strain on the fowl.

Coulson's Number 3 Condition Powder is the Best Tonic For Moulting Hens

It also contains the ingredients that will make the FEATHERS GROW. It is worth its weight in gold for moulting hens. No matter what food you use mix with it a little of COULSON'S No. 3 CONDITION POWDERS, during the moulting season.

It will increase your profits.

It assures assimilation of the food elements needed for egg and feather making.

It is good common sense to take care of the hens and feed them properly. They will pay you back.

COULSON'S No. 3 CONDITION POWDER makes the hens get down to business, moult quickly and get back to laying in the fall. Try it once and you will always want to use it when you see its beneficial results. We make tons of this condition powder and can furnish you with any quantity.

PRICES—1 pound can 25c. 3 pound can 50c
5 pound package 75c 7 pound pail $1.00
10 pound package $1.35 25 pound package $3.00
50 pound sack $5.50 100 pounds $10.50

SPECIAL OFFER

10 pounds sent, express prepaid, to your nearest express office station in California for $1.50.

25 pounds sent, express prepaid for $3.25. Larger quantities shipped by freight.

The Moult.

It is a great strain on the body of the fowl, and unless properly nourished with the right kind of feed, many hens will die during the moulting season.

It will pay you to spend a little extra on feed at this season and save the hens.

COULSON'S EGG AND FEATHER FOOD is what your hens need, and they need it bad at this season of the year. Poultrymen who fed

COULSON'S EGG AND FEATHER FOOD

last year during the moulting season will feed it again this year, you bet, for they know it is the boss feed to bring out the feathers in a hurry and give the hens a beautiful, glossy plumage. You can always tell a flock of hens that have been fed on COULSON'S EGG AND FEATHER FOOD as they have so much nicer feathers and better appearance.

Can you afford to neglect your hens, when you know that Coulson's Egg and Feather Food must be good, as there are 3000 sacks a month of it being used?

Ask for it at the feed stores, or send to factory.

A. R. COULSON & CO., Petaluma, Cal.

Testimonial

Malaga, July 24, '03.

To whom it may concern:—We, the undersigned, have been using Coulson's Egg and Feather Food since last February, (six months) and find that it does everything that is claimed for it and we are very much pleased with it.

Signed MISS L. M. STUDDARD.
MISS K. L. RICHARDSON.

A. R. COULSON & CO.

Manufacturing Chemists

772-774 Main Street, Petaluma, California

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

PREPARING FOR EXHIBITION

Success in the show room depends greatly on the exhibitor. First he must be a lover of his birds if he expects much out of the business. He must know a good specimen from a poor one. A good, true fancier is born not made.

In the fall, October, I cull my flock for the last time until there is nothing left but birds I desire for breeding and exhibition purposes. The cockerels are separated from the pullets, and placed in the cockerel pens—yards made for that purpose, large enough to accommodate the number I have and fitted with a good warm, dry house. The pullets are placed in their winter quarters, being careful not to crowd too many in a pen. I now go over and select my exhibition cockerels. This is done fully two months or ten weeks before show season. Each bird is weighed and placed in a separate conditioning coop. When placed in this coop the weight of the cockrell is carefully marked on a card which is attached to his coop.

These coops are arranged so that no direct sunlight strikes them. The same system of feeding is kept up but now I feed the mash at noon and whole corn at night, giving them all they will eat up clean at a feed. Each bird is weighed once a week, and the record made on the card provided. Some weeks one will gain as much as a pound, others a half, but within thirty days you should have put from a pound and a half to two pounds on a bird. Three weeks before I desire to show, any birds I find not up to weight I begin to feed a little heavier and change the feed. I place a tablespoonful of sugar to each bird in the mash. This causes them to take on fat, which can be easily gotten rid of by discontinuing the sugar. I now feed five times a day, adding a feed of corn, bread soaked in milk, and another of hard boiled eggs. They will now add weight rapidly, and there will be no danger of developing too large comb, as would be the result from feeding raw meat, the milk and egg answering the purpose of meat and not endangering the condition of the bird as would raw meat.

The pullets are placed in houses, not being allowed the outside run, and fed and weighed in like manner, placing six to eight in a pen, supplying them with clean straw as often as needed, also grit and oyster shell. It is well to remember that pullets will not do so well—not take on flesh so fast—when confined to a single pen as will the male. They will fret and worry, and at the end of a month will not weigh one ounce more than when first confined. There are exceptions to this rule, but usually the best results come from allowing several of them together.

At the time I select my show birds I go over each specimen, noticing closely if any feathers are broken. If any are found they are pulled out, as they have ample time to grow in again. No stubs on shanks or down between the toes must appear, as many a good specimen has been "thrown out" in the show room for this disqualification, and from among the stock of old breeders too. You will occasionally find this defect among all the breeds, the old time Barred Rocks and Brown Leghorns even throw down between the toes and stubs on the shanks. Therefore do not be conceited and think your birds are so much better than others, but look them over carefully and kill any bird you find with these defects.

Your birds should be handled, groomed and petted each day. Teach them to pose for you. They must not be afraid to be handled, so they will stand erect when posed to do so, to show their carriage well. Here is where you find "typical carriage" of much value. Take a specimen that has been roughly handled and abused every time you go around his coop he crouches down in a dark corner, with tail down and feathers all ruffled up, and you are sadly reminded why this section was placed on the score card. I always treat my birds with as much kindness as possible, and find that it is much appreciated by them, and that I am fully repaid for my trouble in the show room. A carefully groomed bird shows to the greatest advantage and will get all that is coming to them when the judge passes on the class while the bird that has not been petted and handled will not show their good qualities and strong points in shape and lose much thereby. After the birds have become used to their new quarters, about twice each day place a pedestal in front of the cage, open the door and coax the bird out by talking to it and offering feed in your hand. When you place your hand in the cage, put it under them rather than over, and petting one, always keep your hand below the eyes. They do not like to be rubbed on the back or tail, and it is only after they are perfectly gentle that they will allow it. First place the fingers under the throat, gently rubbing upwards; after the bird gets used to this, place your hand well down between the legs and draw it up the reverse of way the feathers lay. If bird seems uneasy, gently repeat rubbing of the throat again and again until you have your bird sufficiently tame to allow of more thorough handling, then pose him in different positions until you feel you have found the one best suited to him, and in the future only pose him in that one position. At first you will have some difficulty in getting him to stand as you desire, but gradually he will pose for you all right. Just as soon as you get him to stand in correct position study to keep him there. Move back a step or two from the cage with uplifted hand and finger pointing direct at the bird, move up and rub him under the throat, repeating the operation, and in a comparatively short time you will find you can pose a bird and go back thirty yards, and have him stand in position for a full minute and never move. Always use the same tone of voice; always assume the same position when training and above all things keep your temper if you expect to succeed. Should the bird fly down, back him up in some corner and talk to him all the time until you have him in your hands again. Do not run after him but use this gentler method, and you will soon gain his confidence. There is some work about this, but it is the only system of teaching the birds to pose as he should.—Theo. Hewes in From Shell to Show Room.

The Health Department of the City of Los Angeles has ordered the removal of the pigeon ranch located at Arroyo Seco, near Los Angeles. This is the largest collection of pigeons in the world, and has been quite a picturesque feature of suburban Los Angeles. The removal is ordered because of the contamination of the Los Angeles river.

If poultry and garden truck can not be raised on the same piece of ground, and they can not very well, poultry and orchard go well together. The one helps the other and the two make a profit.

JACOB KREGER
Route 1 - Anaheim, Cal.
BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
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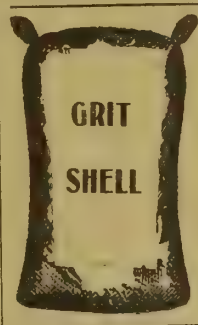

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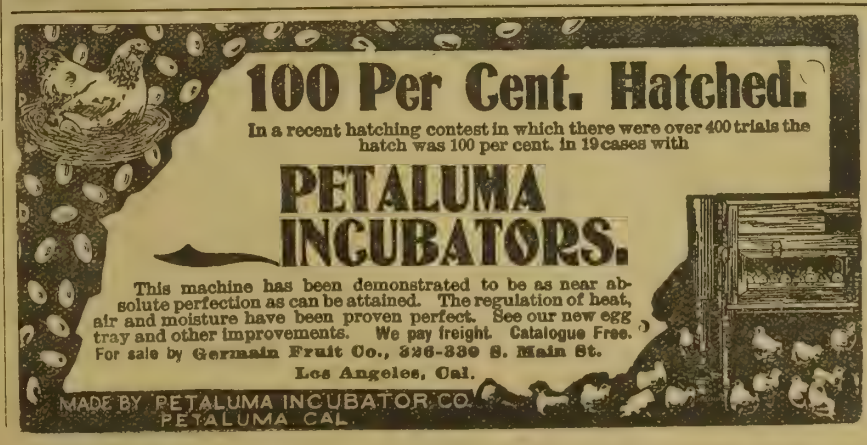

STANDARD REVISION.

What is the "Standard" and what is meant by the "revision of the Standard?"

The American Standard of Perfection is a book issued and copyrighted by the American Poultry Association, giving a full description of each of the popular breeds known in America. This book is revised about every ten years. That is the descriptions are carefully studied over by committees appointed for that purpose of breeders or judges of the different varieties.

This year these committees are in session, and to assist them in their labors they have asked for the opinions of the large breeders of fancy poultry, and the discussions, especially on the plumage of the Barred Rocks, have been very animated.

The question as to the wisdom of having an illustrated Standard or not has been decided in the affirmative and some of the finest artists have been engaged to make pictures of the most popular breeds.

The illustrated Standard will be a great boon to beginners in the poultry business, especially to those desiring to raise prize-winners. We can then take a fowl, put it into a coop, sit down with the Standard of Perfection open, compare with the picture and with the description and judge for ourselves how nearly ours resembles the perfect fowl. Choose those nearest perfection for the show room or for the breeding pen. A poultry raiser cannot afford to be without the American Standard of Perfection.

* * *

Poultry breeders, to make a success of it, must keep on improving their flock every year; there is no standing still in the poultry business. It is either a climbing up to success or a slipping back down hill into mediocrity or even into failure.

One great means of success is the poultry show. It is a satisfaction to those that win, is a stimulus to those who see the winners to keep on improving their own breeds.

The shows are an education, and it gives us great pleasure to note that the Los Angeles County Poultry Association has engaged Hazard's Pavilion for a large poultry exhibition.

THE CHICKEN SHOW.

"What is a chicken show," she asked.
Her pa looked wise and smiled.
"'Tis where the chicken cranks all meet,
And fuss and cuss the judge, my child."
—Francis E. Bates in Poultry Gazette.

Do not allow a lot of hens that persist in sitting after it is too late in the season to occupy the nests in the chicken houses. They will succeed in hatching a brood of vermin, no matter how clean the premises. A Few Hens says, "When a hen sits it is her vacation"—better make them spend the time in a shady back yard, where there are no nests to get into, and let a cockerel keep company with them.

If cleanliness, good care and proper feeding are properly observed there will be little chance to "doctor" fowls.

Do not allow ducks to run in the same yard with chickens; they will befoul the drinking water and cause trouble in other ways also.

There should be more brooms worn out in the poultry yard than there are.

Clean water in clean drinking vessels is strictly necessary at all times.

Cleanliness in the poultry yard and houses is the key to success; the lack of it invites all kinds of diseases.

See that fowls and chicks have good, freshly turned up and finely pulverized earth dust baths in shady places.

Continue the preventive methods to keep down vermin; no matter how favorable the indications may be they are not there.

Management has as much to do with success as good stock, houses and proper feeding. Management is the regulator or safety valve of any business.

It is claimed that when they have a free range, a bushel of grain will feed a hen one year.

THE CITY POET ON THE FARM

Oh, for a life in the country free,
Where the sighing wind in the sweet-corn tree
Mingles its music, drowsy and low,
With the song of the milkmaid, as, to and fro,
Through the sunny pastures she skips about,
Milking the milkweeds with many a spout.

How sweet are the wee white Leghorn lambs,
That scamper about with the half-grown hams,
Barking in glee at the farmer's lad
As he wades in the brooklet, fishing for shad,
While out through the barnyard come strident notes,
For the farmer is busy a-shearing the shotes.

Oh, a country life is the life for me,
Where the neighing calves go frisking free:
The swallows cackle at sunset hour,
As they sip the dew from the whole wheat flour,
And early to roost the ravens go,
For at morn they must clap their wings and crow. —The Journalist.

POCKETSFUL OF SUNSHINE

A pocketful of sunshine
Is better far than gold;
It drowns the daily sorrows
Of the young and of the old;
It fills the world with pleasure,
In field, in lane, and street,
And brightens every prospect
Of the mortals that we meet.

A pocketful of sunshine
Can make the world akin,
And lifts a load of sorrow
From the burdened backs of sin;
Diffusing light and knowledge
Through thorny paths of life;
It gilds with silver lining
The storm clouds of strife.
Ladies' Home Journal.

THE PLOUGHMAN

He draws a jagged wound across earth's tender breast,
And drops to warm embrace the grains of corn.
With salve of sun and rain the wound is gently dressed,
Then—miracle of God—a crop is born.
By Edwin Carlile Litsey.

AFTER THE WEDDING.

The wedding was over. The bride and groom had driven away in a multihued shower of confetti. With light words of congratulation fresh on their lips the guests in their turn had departed from the Jenkins mansion, leaving in their hosts' breasts an awful emptiness suggestive of lonely tomorrows and next days.

Silently the bridegroom's father and mother got into their waiting carriage. Both were deep in thought. What the occasion meant for them however, neither Mr. nor Mrs. Ellery had grasped. The ceremony occupied their minds as a present fact, not as a forerunner of the future. Their son was still their only son, his wife was the girl whom he had just married with ostentation that had broken in upon the sober routine which the Ellerys had come of late years to regard as life.

As they went homeward through the streets that looked strange under the flickering gleam of the arc lights the mother tried by words to grope her way through the feeling of change that was beginning to oppress her.

"It seems as if Willie was a baby only yesterday," she said. "Her hair looks like his used to, soft and yellow. I've got his curls put away in a box somewhere."

The old man spoke in turn, but not to answer. His speech went out to meet the worldly vision in his own mind: "It's a good thing for the boy, Maria. Minnie's a nice girl, and old Jenkins is millionaire."

Both slipped back into silence. There was nothing more to say. They felt themselves explained, and the monosyllabic habit of tired old age restrained them. Inevitably they drifted into the reveries for which experience prepared them. The father scanned anew the ambitions of his youth which lack of money had hindered.

They seemed to him within easy reach of his son, more fortunate. The mother lived again through the hopes of her young womanhood. From out the display of the evening the brilliant crush of guests, the magnificence of the background, one form stood before her—the bride's, all white except the bright head that crowned it. As the woman looked the years fell away from her own slight shoulders. That other scene, long since grown dim upon her sight, grew clear again. She saw herself a bride, with all the promises of love fresh in her heart. She held her head up proudly beneath the orange blossoms. Happy and tremulous she looked with young eyes through the veil upon a familiar world that yet was new.

The haunting sweetness of her eyes grew sorrowful. In her husband's face, lined with care, heavy because of its settled features, in the drooping lines of his form she saw herself as in a mirror; she was old despite her dreaming.

Slowly they walked up the slippery pathway together, each steadying the other. While her husband fumbled for his latch key Mrs. Ellery looked about her, her lips tightening. The scene before her doorstep, humble in itself but rich in association, soothed the loneliness by its familiar aspect. How often she had stood there, waiting for her husband's homecoming. How often she had watched her boy off to school, going forward to the edge of the porch so that the climbing vines should not obstruct her view of him as he trudged whistling down the road, swinging his books recklessly about his heels. How often in more recent years she had pursued with yearning tenderness his retreating figure. Before her, in winter vesture, lay the little garden she had tended every season; above her clung the rosebush that had made her dooryard glorious in June.

The door was open, and she followed her husband into the house in a mood that took no account of time or change, the exaltation to which the sight of well-loved common things will some times lift the spirit. She started up the stairway. She could hear her husband's footsteps coming up behind her. They echoed in the vacant house as she had never heard them. The consciousness of some omission struck her. She turned back with swift comprehension.

"The light," she said, "you have not put out the light."

A startled expression came to the old man's eyes. The deep red flush of pained surprise forced itself from his thick throat to his forehead. For many a day he had been used upon going to bed to leave the hall light burning.

The mother's lip trembled. Her left hand, as she glanced over her shoulder, pressed more heavily on the banister. "He will not come home tonight William," she faltered.

With an effort Mr. Ellery reached up and turned out the gas. In the darkness the two old people plodded wearily up the stairway.—C. R. H., in Chicago Tribune.

DRY DOCK ROMANCE

They got on the subject of June weddings.

"Where'd you rather spend a honeymoon?" asked one of the two men.

"Well," answered the other, "all things considered, I think the ideal place for a honeymoon is on a schooner at a Hoboken dry dock."

Then, of course, he had to tell a story.

The schooner was just up from the Caribbean and had gone to a dry dock in Hoboken to be refitted. The dry dock people were having their busy season just at that particular time and the schooner had to wait a week or two before the workmen had a chance to lift her from the water. So the craft lay free at the piles and the crew was discharged.

The skipper was in love. In fact, he had for some time been engaged to marry, and being an energetic son of Maine, he sent this telegram to his betrothed, a New Orleans girl:

Out of a commission for a month or so, but must stay here just the same. Good time for splicing. Cut all loose and come at once. Never mind new togs. BOB.

She came on, they were married forthwith and then began to spend their honeymoon. And if you will believe people who know all about it, that honeymoon was the greatest ever devised and excuted anywhere. Harry, the younger brother of the head draughtsman of the yard, was probably the first to find out much about it. From here on it's Harry's story.

"The first time I ever saw Capt. Bob" he said, "was when he came down the pier with a big bundle of stuff under his arm—stuff from the grocery I guess. Good-looking? Well, I should imagine! Light hair, sunburned face, square jaws, sharp eye the walk of a man who knows his business. Well, he was all right.

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SOUTHERN PACIFIC
261 SOUTH SPRING ST.

"Probably I shouldn't have paid much attention to him if it hadn't been for one accident. The ladder that was hanging over the side of the schooner didn't reach the float by several feet. There was a rope over the side against the ladder.

"I was wondering what good the rope would ever do any body but a professional acrobat when he grabbed the end of it with his right hand and with the greatest ease in the world raised himself up the ladder. Then with a peculair little twist he swung himself over the ladder and climbed up to the deck as cool as a cucumber.

"She was waiting for him, of course. The way in which she was got up would have struck any eye. Black hair, red kimono, shirt with blue dots, a mighty pretty face and all the other things that go to make a bully looking young woman.

"She kissed him as he came over the rail and then walked aft. He threw his bundle to the negro cook, twirled his straw hat into the cabin and lounged into the hammock that he had rigged up under an awning. As he sat there she sank down upon a deck stool in front of him and held her hands on her knees as she gazed at him.

"It was as pretty a picture as you'd ever see anywhere. I made up my mind then and there that they had just been married, and so it turned out. The ceremony had been performed on the deck of the schooner by a minister from some sleepy little New Jersey hamlet and the cook had been the only witness.

"It isn't hard to imagine that there was no better place in New York and its vicinity to spend a honeymoon than on that schooner. You see, there was nothing but exclusiveness, especially after we chaps, who had been going in swimming had been warned that we'd have to be careful not to ejaculate too much. Besides that, there was a heap of comfort aboard.

"Every other evening or so Capt. Bob and Mrs. Captain Bob went over to New York, saw the electric glitter of the Tenderloin, ate a table d'hote dinner and viewed a roof-garden show or something of the sort. Some evenings they sat alone on deck and watched each other and the twinkling lights.

"In the day time there was a great chance for sightseeing in the one city where one can find all the big sights one wants. Capt. Bob could steer a horse as well as he could send his vessel along and several times he hired a runabout and took his wife over all the country nearby.

"On some evenings they entertained aboard and those entertaiments were simply great. Capt. Bob bought a piano the first day for his wife to play and sing by, and she had a guitar, and a voice as sweet as her face.

"He was no slouch of a singer himself. He had one of those barytone voices that no fog on the sea could ever spoil and what the two couldn't do in the way of a musical entertainment wasn't worth doing.

"Jim, the negro cook, musn't be forgotten. He was a perfect sharp on fixing up ices and dainties and that sort of a thing. Well, just think what fun a party could have in such a place, with such people and with such cool breezes, myriads of sparkling lights, swishing waves and all those things.

"Yes sir, a honeymoon on a schooner in Hoboken is all right if you have the real artistic sense."—N. Y. Sun.

HOW TO MAKE HASTE.

Do you know how to hurry? This is a hurrying age, and you ought to know how to keep up with it—if you think it worth while. These suggestions come from busy men:

1. Do nothing that you don't have to do. Cut out the non-essentials.

2. Don't hesitate. Begin at once. Stop when you are through, and begin on the next thing.

3. Don't be too particular what part of the job you begin with. Other things being equal, do what is under hand first, and the next nearest thing next.

4. Don't pause between jobs.

5. Do your thinking while you are acting, and think about the work in hand.—Ex.

Despite laws against adulteration, "olive oil" is secured from the cotton plant, marmalade fro mthe turnip, and cherry jelly from the foot of a calf.

HOMELY HINTS.

Ink stains can be removed from white linen by oxalic acid, chlorinated soda or lemon and salt. The material should then be laid in the sun and wet from time to time with lemon juice and washed in warm water. The application should be repeated if necessary.

If mildew on linen hasn't been thriving very long, try washing with lime water. This also must be rinsed out very carefully, for it has a way of weakening the cloth. Take a spoonful of chloride of lime to a quart of water for the preparation. Soak yellow clothing in it for several hours and then hang it in the sun, after rinsing, for a good bleaching.

Try a bit of camphor in the reservoir of a lamp and see if it doesn't cause a brighter light.

Burn some alum and pound it real fine, then sift through course muslin and it is already to brighten steel ornaments. Use it dry with a soft brush. Of course burnt alum can be bought at the druggists already powdered. Emery powder also will often make small spots of tarnish disappear from steel.

Kerosene and gasoline is always a good old standby. If a metal or porcelain tub gets discolored from the drippings of water, or even for want of a little frequent care, it comes to the rescue.

Varnish stains on clothing usually yield to the influence of alcohol. Just wet the spots with it and let the cloth lie for a moment and again sponge with alcohol. Chloroform ought to restore the color if this has faded the fabric any.

Down quilts can be given new life in the same way, and feather beds left out of doors all day will resemble the softest down.

Do not hang feathers in the sun, for an oil exudes from them which causes a decided odor, and is apt to discolor the covering.

Articles stuffed with down can be hung directly in the sun for a few hours.

A good way to kill weeds on a gravel or cinder walk, is to apply a strong solution of copper sulphate.

THE TRUTH OR NOTHING.

One of the striking traits of Gen. Ulysses S. Grant was his absolute truthfulness. He seemed to have an actual dread of deception, either in himself or others. One day while sitting in his bedroom in the White House, where he had retired to write a message to Congress, a card was brought in by a servant. An officer on duty at the time, seeing that the president did not want to be disturbed remarked to the servant: "Say the president is not in." General Grant overheard the remark, turned around suddenly in his chair, and cried out to the servant: "Tell him no such thing. I don't lie myself and I don't want anyone to lie for me."

HE CATCHES IT.

Though a martyr to dyspepsia
Quite an appetite he had.
He's a sufferer by proxy,
It's his wife who has it bad.

HER FEAR.

The Bore—I'm not feeling at all well this evening.

The Belle—I hope it's not a lingering illness.—Kansas City Independent.

Mrs. Hiram Offen—"That will do! You'll leave on Saturday, and you needn't bother me about a recommendation."

Bridget—"Shure, Oi hov no intintion of givin' ye a recommindation. Oi'll tell the truth about ye to ivery gurl that axes me."

An Irishman was walking with a friend past a jewelry shop. The window was filled with precious stones. "Wouldn't you like to have your pick?" asked Larry. "Not me pick," said Mike, "but me shovel."

In a general way it pays better to go fishing with the boys than it does to lick them.

He boiled the water that he drank,
By rule he slept and ate;
He wore hygienic underclothes
To get the bulge on fate.
Thus science served him faithfully
And made him microbe proof,
But yesterday he met defeat
By falling from a roof.

Chicago Record-Herald.

RECIPES.

BEEF LOAF.—Three pounds of beef from the round, three-quarters of a pound of pork; put through grinder; add two well beaten eggs and three-quarters of a cupful of cracker crumbs, even teaspoonful of salt, one-half teaspoonful of pepper. Mix thoroughly and place in greased pan. Sprinkle top with flour and dot with butter. Pour one cupful of water around, and bake one hour in hot oven, basting frequently. Serve in a chop dish, surrounded with browned potatoes and parsley. Potatoes can be browned in pan with loaf.

* * *

CREAMED RICE.—Wash and pick over one cup of best rice Put into hot water to cook slowly until about half done. Then add sweet milk, a little salf, and sugar to taste. Continue the cooking until thick and creamy, and the rice perfectly soft. Raisins may be used if desired, or a little nutmeg may be used for flavoring. Serve warm or cold. A good and inexpensive desert, one of which children especially, are very fond.

* * *

MUTTON BREAKFAST BALLS.—To one cup of cold mutton coarsely chopped add a little piece of chopped ham or pork, a little sage, half a teaspoonful of kitchen bouquet, and half a cup of bread crumbs into which has been mixed two tablespoonfuls of melted butter. Blend together with a beaten egg, and add salt and pepper as needed. Take a tablespoonful of this mixture, make it into balls, dredge them with flour, and fry them quickly in hot fat.

* * *

Guava Jelly.—Some, when making guava jelly, take the pulp after the first straining and add a little more water, cook up well and strain again. This is added to the first juice. Then proceed as in general directions for jelly making.

TO GLACE FRUIT.

The following request is in from Hanford, and the Cultivator has tried to get from subscribers a good recipe for glace fruit. This one has been received and if Cultivator readers can give a better one will they please send it in?

Editor Cultivator: Will you kindly furnish me with a recipe for glacing preserved fruit such as apricots, plums, etc. Please answer through the Cultivator. M. N. N.—Hanford.

The fruit used must be preserved in thick syrup, if one year old, the better. Drain the fruit from the syrup and lay in the sun for one or two days, then sprinkle with granulated sugar.

Some re-dip the fruit, using a heavier syrup and continue the drying two or three times.

MOONBEAMS.

The elm tree's shadow on the lawn
By moonlight level spread,
Is like a spider's swaying form
Dropped from a silver thread.
I like to watch it, shadow-drawn,
Before I go to bed. —Ex.

They met within the darkened hall;
He said, "I've brought some roses."
Her answer seemed irrelevant;
It was, "How cold your nose is!"
Her answer seemed irrelevant—
But, when you've recollected,
Then you can plainly see that it
Most closely was connected.

Mrs. Vane: "What a man Mr. Jones is to flatter! He told me today that I looked young enough to be my own daughter."

Mrs. Blunt: "Your own daughter by a former marriage, he probably meant.'

"I don't think Papa cares much for you, Fred," she whispered softly. "That's all right," he replied, "forewarned is forearmed, you know." "Wouldn't it be nice," she continued, in a much lower whisper, "if you were really four armed?"—The Epoch.

AS DEFINED.

"Say, mamma," queried little Mary Ellen, "what's a dead letter?"

"Any letter that is given to your father to mail, my dear," replied the wise mother.

The world wants men who can produce results—results are possible by hard work; will you pay the price?

The world is short on talents, not on places.

James R. Townsend Francis M. Townsend
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Los Angeles Markets.

LOS ANGELES, Aug. 20., 1903.

The same sixty cent quotations are still made on B. of T. creamery with fairly firm markets, although there is a large storage and eastern supply.

Eggs are taking a slight advance, and the demand is cleaning up the light receipts. Good stock readily commands full quotations.

Good potatoes are exceedingly scarce, and there is much eagerness to pick up every stock which comes in.

Vegetables as a general thing are in excellent supply, with fairly easy market.

In dried fruits there is no particular move, and quotations on 'cots may be considered as from 5 to 7 cents. A few sales have been reported at 7, or slightly in excess of 7, but this is exceedingly rare.

Peaches are not being quoted on the coming crop.

Hay and grain are moving very firm.

Walnuts are dropping from the trees and the promised output is shrinking. Estimates now range from one-third to one-half an average crop. Offers of 10½ cents for orchard run are made, with the probability of a much higher price later.

Butter.

B. of T. Creamery, per 2lb roll	60	
Dairy, do	52½	55
Cooking	20	22½

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	16	17
Swiss	13	
Imported	28	

Eggs.

Fresh Ranch	.27	.28
Fresh Eastern	.24	.25
Store, case count	.24	.25

Potatoes.

Potatoes, per ctl	1.00	1.25
Sweet potatoes	4.00	5.00

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.40
Onions, yellow		.60
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chilles, green, per lb		.04
Peas, green, per lb		.02
Lettuce, per sack	.25	
Radishes, doz. bunches	.15	

Fruits; Fresh.

Green Black Figs, per lb		.15
Cantaloupes, per doz	.40	1.00
Water Melons, per doz	.50	1.25
Strawberries, box, fancy	.04	.06
Raspberries, per box	.05	.06
Lemons, per box	.75	2.00
Oranges, seedlings	.75	1.50
Grape Fruit, per box	.75	1.00
Limes, per 100	.90	1.25
Prunes, Hungarian, box 30 lbs		1.00
Peaches, per box	.25	.35
Northern Apples, 40 lbs	.50	1.25
Local apples, per box, 30 lbs	.40	.60

Fruits; Dried.

Apricots	.05	.07
Pears	.07	.08
Peaches, fair to good, sks	.04	.06
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.08

Poultry.

Spring chickens	14	.15
Hens, No. 1, per lb	.13	13½
Ducks, per lb	.10	.11½
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	4 00	5 00

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P. O. Box 9, Station C. Los Angeles, Cal.

San Francisco Markets.

Dairy.

San Francisco, August 20.

Butter has taken a material advance during the past week, and it is coming closer to the usual mid-summer mark. Not only are the quotations higher, but the tone of the market is firmer than for some time. Even medium grades of butter are going off well at full quotations. The daily receipts of Coast butter have been reduced to almost one-third of that of April and May. It now aggregates in the neighborhood of 30,000 pounds.

Quotations are:

BUTTER—Per lb:

Creamery extras	28	
Creamery firsts	26	@27
Creamery seconds	24	@25
Dairy extras	24	@25
Dairy firsts	21	@23
Store	18	@20
Eastern Creamery	23	@24

CHEESE—Per lb:

Cal. Creamery, mild new, extra	14	@15
Cal. Creamery, mild new, choice	13½	@14
Young America	14	@15½
Eastern, New York cream, Cheddars and flats, new	14½	@16

Eggs and Poultry.

The receipts of choice eggs are materially decreasing with nearly 2 cents advance during the past week. Daily local receipts are about 627 cases. The poultry market is very satisfactory to the selling interests though there has been an increase in arrivals they are all well cared for, however, within the quoted range of prices. Large young stock is quickly picked up. Quotations are:

EGGS—Per doz:

Ranch, selected large	29	
Ranch, good to choice	27	@28
Store	20	@25
Eastern	18	@22

POULTRY—Old Roosters, per doz., $450@5; Young Roosters, $5@6.50; Fryers, $3.50@4; Broilers, large, $3@3.50; small, $2.25@2.50; Hens, $4@5; Ducks, per doz., old, $3@4; young, $3.50@4.50; Turkeys, nominal; Geese, per pair, $1.25@1.50; Goslings, $1.50@1.75; Pigeons per doz., young, $1.50@1.75; do, old, $1.50.

Fruits and Vegetables.

APPLES—Per box, common to choice, 30@75c; fancy, 75c@1.10; Crabapples, per box, 25@65c.

PEACHES—Per box, 35@75c; bulk, per ton, Freestones, $15@20; Clingstones, $20@25.

PEARS—Per box, No. 1 Bartlett, $1@1.25; common, 30@75c; bulk, per ton, $20@35; other varieties, per box, 30@60c.

PLUMS—Per box or crate, 40@75c; bulk, per ton, $20@25; as to variety.

FIGS—Per box, 75c@$1.50.

APRICOTS—Per box, nominal.

CANTALOUPES—Per crate, 75c@$1.50.

NUTMEG MELONS—Per box, 40@65c.

WATERMELONS—Per 100, $5@15.

GRAPES—Per box or crate: Seedless, 30@75c; Black, 40@75c; Fontainbleau, 30@65c; Tokay, 75@90c per box; Sweetwater, 30@75c; Muscat, 50@90c; large boxes, $1@1.35, as to variety.

BERRIES—Per chest: Strawberries, large varieties, $3.50@5; Blackberries, $3@4.50; Raspberries, $8@10; Huckleberries, per lb., 6@8c.

CITRUS FRUITS—Per box, repacked: Oranges, Valencias, $2@3; St. Michaels, $2@3; Seedlings and Mediterranean Sweets, nominal; Lemons, 75c@$2.50; Grape Fruit, $1@2; Limes, $4@4.50.

VEGETABLES—Tomatoes, per box, river, $1@1.50; do, Bay, $1.50@2; Green Peppers, per box, Bell, 25@50c; Chile, 25@40c; String Beans, 1½@2½c; Wax Beans, 2@3c; Lima 2@3c; Green Peas, per lb., 3@4c; Egg Plant, per box, 40@60c; Summer Squash, per box, 30@40; Cucumbers, per box, 40@50; Garlic, per pound, 2@3c; Green Corn, per sack, 75c@1.50; crate, $1@1.75; Okra, per box, 40@50c; Marrowfat Squash, per ton, $20.

ONIONS—New Silver Skins, per ctl., 65@80c.

POTATOES—River Burbanks, per ctl., 65

POTATOES—River Burbanks, box, $1@1.50; sack, 75c@1.15; Early Rose, per ctl., 75c@$1; Garnet Chile, per ctl., $1@1.15; Salinas Burbanks, $1.50@1.75; Sweet Potatoes, per lb., 2½@4c.

Dried Fruits, Nuts, Etc.

DRIED FRUITS.—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1902 crop, are, per lb., as follows:

Apples—Evaporated, 5@6½c; Sun Dried, 3@4c.

Apricots—Royal, fancy, new, 8¾@9c; choice, 7¾@8¼c; old, 6½@7c; Moorparks, choice, 9@10c.

Peaches—New, choice, 5@6c; peeled, in boxes, nominal.

Pears—4¾@9½c.

Plums—Pitted, 4½@6c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2¼@2½c, with ½@1c premium for large sizes; new crop, 2¾@3c.

Nectarines—Whites, 4@5½c.

Figs—White, 5½@6c; Black, 5c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown,

Hay and Grain.

Wheat hay	8.50	11.00
Barley hay		7.50
Barley, per ctl		7.50
Alfalfa, large bales	10.00	11.00
Corn, per ctl		1.50
Barley	.97½	1.05
Wheat	1.37½	1.40
Oats		1.10
Corn, Oct. delivery		1.10

MILL STUFF.

Quotations f. o. b. cars L. A. are:

Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.60
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75

$1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16 7¾c; 12 oz., 6¼c; bulk, 7½c; choice, 16 oz., 7½c; 12 oz., 6c; bulk, 7¼c.

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—New Comb, per lb., White, 12@13c; Light Amber, 11@12c; Extracted Water White, 6@6½c; Light Amber, 5½@6c; Dark Amber, nominal.

BEESWAX—Per lb., 30c.

Live Stock.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin steers, 6½@7c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 140 lbs and over, 6@6¼c; weighing under 130 lbs, 5¾@6c; weighing 260 to 350 lbs, 5½@6c; rough heavy, 4½@5c.

Hay and Feed Stuffs.

HAY—Prices on new Hay, per ton: Wheat, $11.50@14; Wheat and Oat, $11.50@12.50; Oat, $10@12.50; Barley, $9.50@12; Clover, $10@11; Alfalfa, $10@11.50; Stock, $8@9.

FEED CORN MEAL—Choice grades, per ton, 34@35.

STRAW—Good to choice, per bale, 45@60c.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $23@24.

MIDDLINGS—Per ton, $28@30.

BRAN—Per ton, $24.50@25.50.

CRACKED CORN—Choice quality, per ton, $34.50@35.50.

BEANS—Prices per ctl: Large Whites, $2.90@3.10; small do, $3@3.30; Peas, $3.30@3.50; Lima, $3.40@3.55; Red, $2.90@3; Pink, $3@3.10; Bayo, $3.50@3.70; Blackeyes, $2.75@3; Red Kidneys, nominal.

COCOANUT CAKE—Best quality: In lots of 10 tons and upward, $20 per ton; 5 tons, $20.50; small quantities, $21.

Cereals.

FLOUR—Net Cash, Family Extras, $4.60@4 85 per bbl.; Bakers' Extras, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—New Crop: No. 1 shipping, per ctl., $1.45; choice, $1.47½; White Milling, good to choice, $1.50@1.60.

BARLEY—New crop: Choice, No. 1 Feed, $1.06¼@1.08¾; shipping, $1.10@1.18¾; Brewing, No. 1, $1.18¾@1.20; Chevalier, nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.55@1.60; small do, $1.75@1.77½; white, $1.55@1.60.

RYE—Good to choice, per ctl, $1.20@1.25.

OATS—Feed, good to choice, White, $1.22½@$1.32½; White Milling, $1.32½@1.37½; Red, $1.15@1.32½; Black, $1.15@1.25 for feed and $1.30@1.40 for seed.

Hops.

The prices for new crop are 19@20c per lb., according to quality.

Eastern Markets.

New York General Market.

GENERAL EASTERN MARKETS.

CHICAGO, Aug. 19.—There was a fairly steady opening in wheat; due to reports of continued wet weather in the United Kingdom, and September opened a shade lower to a shade higher at 80¾@80⅞. Local longs showed a disposition early in the day to buy back some of the wheat they had sold out during the past few days, and were encouraged in that by the action of cash houses, which bought freely of the September delivery. This demand resulted in a better tone during the first half hour when September sold up to 81⅝, but later in the day reports of bad weather in the Northwest, together with a better field than had been expected, caused heavy liquidation and prices declined rapidly. A break of 2 cents in the price of the cash commodity at Minneapolis, heavy receipts at all primary points, and light clearances added to the weakness and started a stampede to sell by local longs which resulted in September declining to 89⅜. Covering by shorts during the last half hour caused a sharp rally and the close was near the top, with September ⅜ to ½ higher at 81½. There was covering in corn early in the session on firmness in wheat, and with light offerings the market became firmer. September closed a little higher at 52¼: Oats were independently strong throughout the entire day. September closed ½c higher, at 34½.

Cash quotations were as follows: Flour easier; No. 2 spring wheat, 82@83; No. 3, 78@81; No. 2 red, 79¼@81; No. 2 corn, 51¼@51⅛; No. 2 yellow, 52@52½; No. 2 oats, 34¼; No. 2 white, 33; No. 3 white, 34¼@35; No. 2 Rye, 51½; fair to choice malting barley, 46@53; No. 1 flaxseed, 96½; No. 1 Northwestern, 1.01.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	85,700	11,000
Wheat, bushels	212,300	57,500
Corn, "	366,000	209,600
Oats "	299,900	43,100
Rye, "	10,500	......
Barley, "	11,000	2,500

On the Produce Exchange today the butter market was steady; creamries, 14@19; dairy, 13@17; eggs, steady at mark, 14@15½; cheese, steady, 10@11½.

Chicago Live Stock.

CHICAGO, Aug. 19.—Cattle—Receipts, 18,000; Texans, 1500; market steady; good to prime steers, 5.10@5.60; poor to medium, 3 65@4.90; stockers and feeders, 2.25@4.00; cows, 2.50@4 40; heifers, 2.00@4.95; canners, 1.50@2.60; bulls, 2.00@4.30; calves, 2.50@7.25; Texas-fed steers, 3.25@4.40; western steers, 3.25@4.45

Hogs—Receipts today, 25,000; tomorrow, 20,000; market good, steady to strong; mixed and butchers, 4.50@5.65; good to choice heavy, 5.15@5.45; rough heavy, 4.75@5.75; light, 5.30@6.00; bulk of sales, 5.15@5.45. Sheep—Receipts, 25,000. Sheep and lambs steady to 15c lower; good to choice wethers, 3.25@3.65; fair to choice mixed, 2.50@3.25; western sheep, 2.75@3.50; native lambs, 3.25@5.75; western lambs, 4.50@5.50.

California Dried Fruits.

NEW YORK, Aug. 19.—The market for evaporated apples is rather higher and quieter. There is a good demand, with outside prices rarely obtainedable; common, 4@5½; prime, 5¾@6; choice, 6¼@6½; fancy, 6¾@7½. Spot prunes are in good jobbing demand, and show no material change, either in prices or general conditions. Quotations range from 3@7 for all grades. Apricots are firm. New crop choice are quoted at 9@9½; old, choice, 8@8¾, and fancy at 10@12½. Peaches are moving a little better, and rule firm at 7@7½ for choice, and 8@10½ for fancy.

NEW YORK GENERAL MARKET.

NEW YORK, Aug. 19.--Wheat—Spot firm; options closed higher; May closed 88¾; September, 86½; December, 87¾. Hops firm; Pacific Coast, 1901 crop, 15@17; olds, 7@9.

CITRUS MARKETS

THE ORANGE MARKET.

The past week has shown a great deal of indifference on the part of dealers for oranges and has been rather disappointing as a rule. Auction markets have been quiet at a lower range of prices, only strictly fancy stock bringing values that would be satisfactory to the shipper. The supplies in these markets are more than ample for their present needs and the prospects are for little change in the situation. Western markets have been using but a small quantity of fruit and evidently have such a supply of deciduous fruits, etc., as to limit the demand very materially for oranges. Shipments have been light so that there should be no particular change as to values.

THE LEMON MARKET.

The lemon market continues in very bad shape. The number of foreign lemons in sight for the next thirty days is equal to that of last year, and prices are low, weak stock selling for $1.00 to $1.50. The Western markets have been using but a limited quantity. Where sales can be made at all, fair prices can be realized. Stock in poor condition cannot be sold at any price, and when diverted and sold in auction markets the results are disastrous. Shipments have been light and with the last end of the foreign crop arriving in poor condition and unsatisfactory as to the sizes will create more demand for Californias, which will be in better condition and should show good keeping qualities from now

AUCTION SALES.

NEW YORK, August 12th.
Market lower on 80s to 126s; stronger on 150s to 250s.
A. C. G. F. Ex., Blue Seal Valencias, $3.90. Red Shield Valencias, $2.40.
S. B. C. F. Ex., Tiger Valencias, $3.20.
BOSTON, August 12.
Market is steady.
C. C. U., Riverside, Seal Mikes, $3.20.
O. K. F. Ex., Snail Valencias, $3.80.
PHILADELPHIA, August 12th.
S. T. F. Ex., Blue Ribbon lemons, $1.95. Punch lemons, $1.55. Club lemons, $1.30.
A. C. G. F. Ex., Hunter Valencias, $2.30.
PITTSBURG, August 12th.
Market is weak.
S. T. F. Ex., Echo Valencias, $2.70. Arroyo Valencias, $2.25.
C. C. U., Mosgrove, Clematis Valencias, $1.70. Clematis sweets, 17 per cent. decay, $1.55.
CLEVELAND, August 12th.
Market is weak.
S. B. C. F. Ex., Rancho Valencias, $2.25. Arrowhead sweets, $1.55.
S. T. F. Ex., Penn. lemons, $2.35. Whittier lemons, $1.65. Pico lemons, 25 per cent. decay, $1.55.
CINCINNATI, August 12th.
Market is declining.
C. C. U., Monrovia, Lilac lemons, $2.80. Lighthouse lemons, 15 per cent. decay, $1.95. Peacock Valencias, 12 per cent. decay, $1.80.
NEW YORK, August 13th.
Riv. F. Ex., Red Globe sweets, $2.10. Red Globe Valencias, 7 per cent. decay, $2.65.
C. C. U., Riverside, Seal Mikes, 7 per cent. decay, $3.25.
BOSTON, August 13th.
Market is steady.
O. K. F. Ex., Snail Valencias, $2.45.
NEW ORLEANS, August 13th.
S. S. F. Ex., Choice Valencias, $2.85. Standard Valencias, $2.40.
NEW YORK, August 14th.
C. C. U., Pomona, Lilac Valencias, 15 per cent. decay, $2.10.
D.-M. F. Ex., Iris Valencias, 7 per cent. decay, $3.60.
PITTSBURG, August 14th.
Market is weak.
O. K. F. Ex., Owl Valencies, $2.45.
C. C. U., Mosgrove, Clematis Valencias, 7 [illegible] cent. decay, $1.35.
[P]HILADELPHIA, August 14th.
[M]arket is steady.
[S]. T. F. Ex., Alhambra Valencias, $2.90. [D]on Quixote Valencias, $2.65.
CINCINNATI, August 14th.
Market is weak.
S. B. F. Ex., Floral Valencias, $2.55. Rancho Valencias, $2.15.
CLEVELAND, August 14th.
S. D. F. Ex., Ceres Valencias, $2.25. Vesta Valencias, $1.70. Ceres lemons, $1.65. Vesta lemons, 20 per cent. decay, $1.45.
NEW YORK, August 17th.
A. C. G. F. Ex., Blue Seal Valencias, $3.95. Red Shield Valencias, $3.25.
PHILADELPHIA, August, 17th.
Market is steady.
S. B. C. F. Ex., Floral Valencias, $2.60.
S. T. F. Ex., Echo Valencias, $2.70. Arroyo Valencias, $2.35.
BOSTON, August 17th.
Market is steady.
S. B. Co. F. Ex., Tiger Valencias, $3.50, Floral Valencias, $2.75.
PITTSBURG, August 17th.
Market is declining.
Riv. F. Ex., Red Globe sweets, $2.30. Red Globe Mikes, $2.00. Red Globe Valencias, $2.35.
CINCINNATI, August 17th.
Market is declining.
O. K. F. Ex., Owl Valencias, 20 per cent. decay, $1.80.
CLEVELAND, August 17th.
Market is declining.
S. C. F. Ex., O. I. C. sweets, 15 per cent. decay, $1.50.
NEW YORK, August 18th.
Riv. F. Ex., Blue Globe Valencias, $3.20.
D.-M. F. Ex., Violet Valencias, 10 per cent. decay, $2.65.
BOSTON, August 18th.
Market is steady.
C. C. U., Riverside, Seal Mikes, $2.70.

MARKET NOTES.

Report of the U. S. consul, C. P. Nason, Grenoble, France, on the walnut crop, made on July 25th.

This year's crop of walnuts in the valley of the Isere (France) promised to be an excedingly good one, large in quantity and bountifully laden with fruit. The young nuts, now about the size of ripe plums, are well formed and in a very normal state. it is however, much too early in the season to attempt an estimate of the probable yield, because of the variable weather conditions which may obtain before the ultimate harvest.

(S. Crowinshield,) U. S. consular agent in Italy reports:

LEMONS, This summer's crop will be a good average, larger than that of last year, but the fruit leaves something to be desired as regards size and appearance, and the quality not being up to the usual standard for keeping, will not permit of more than one-half being shipped to places like the United States, where a long voyage is necessary. Therefore, it is quite probable that shipments to America will fall short of the usual.

As to walnuts, the same agent also reports: It is as yet much too early to give any definite idea as to the prospects for the new crop. The trees, however, gave good blossom, and this would point to a good average crop, provided, of course, that we have good weather between now and October, when the shipping season commences.

The grain crop of this state is far below the average according to the estimate of the State Board of Trade, but the hay crop will be one of the largest ever produced in the state.

Advices from the north concerning prunes say that export orders are much lighter in volume than one year ago. Indications point to a slow market for a little time at least, as the buyers for wholesale and jobbing houses have positive instructions to buy absolutely for immediate requirements only. Speculators are not in evidence. Last season at this time the large buyers were taking eveverything in sight. Unfortunately the deliveries last season were very late, goods arriving long after the season was practically over, and dealers were compelled to carry over a large line. Again the foreign buyers last year purchased large quantities early in the season. The export of prunes for the twelve months ended June 30, 1903, was 66,385,000 pounds; this made quite a hole in the prune crop of 1902.—L. A. Times.

The total export of cured apricots last season was 9,190,000 pounds, compared with a total of 1,928,000 pounds for the year ending June 30, 1902.

Orders for walnuts are now being freely received. Eastern buyers prefer the California to imported nuts and, owing to the shortage this year, are placing orders early to secure as much as possible of the crop. The price for the coming crop is not yet made.

FRUITS AND VEGETABLES.

There is a slightly improved tone in the fruit market, especially along the line of peaches. Canners are still holding about the same prices as last week, viz., 15 to 20 for frees, and 20 to 25 cents for clings. In the local way the frees are reported rather easy in the market, and plums are situated about much the same as last week with very limited demands for shipping purposes. Apples are being shipped out in liberal quantities, but under equally liberal supply, the prices are only slightly increased than last week's quotations. There are abundance of crab apples in the market at rather easy rates. Oranges and lemons are rather featureless, only one car load of Valencias being reported.

Practically the same prices prevail on melons though large quantities are being daily received.

One feature of the market has been the first receipt of Royal Isabella grapes, four baskets of attractive fruit being sold at $2.25. Berries are slow and sales indifferent.

The recipt of potatoes are slightly less liberal, but there appears to be no material appreciation in price, notwithstanding the buyers are shy to make purchases at present rates. Sweet potatoes are coming in more plentifully. There is but slight change in the summer vegetables. Tomatoes remain firm, with all fancy stock quickly picked up.

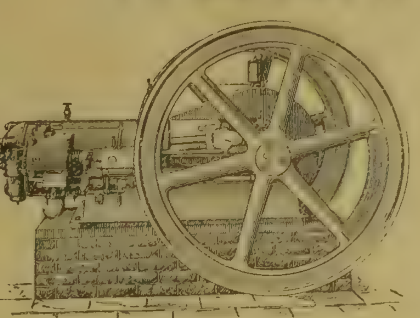
Los Angeles, Cal., June 30, 1903.

The following named children have been received in the Boys' and Girls' Aid Society Home since April 1st.

Half orphans: William Higgins, male, aged 11 years, light hair, blue eyes; Harry Higgins, male, aged 10 years, light hair, blue eyes; Rowland Higgins, male, aged 8 years, light hair, blue eyes; Harry Higgins, male, aged 6 years, light hair, blue eyes; Ruby Higgins, female, aged 4 years, light hair, blue eyes; Peppa Bailey, female, aged 3 years, black eyes, dark hair; Roberto Bailey, male, aged 4 years, dark hair, black eyes; Gertrude Chapman, female, aged 6 years, dark hair, black eyes; Chester Garwood, male, aged 9 years, light hair, blue eyes; George Garwood, male, aged 11 years, light hair, blue eyes.

MRS. E. A. CHRISTIAN, Supt

"Western Engines"



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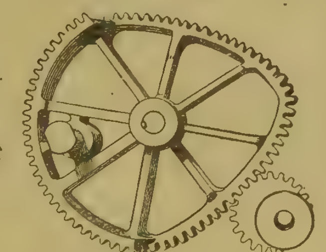

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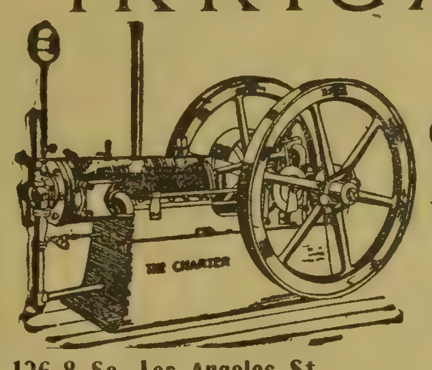

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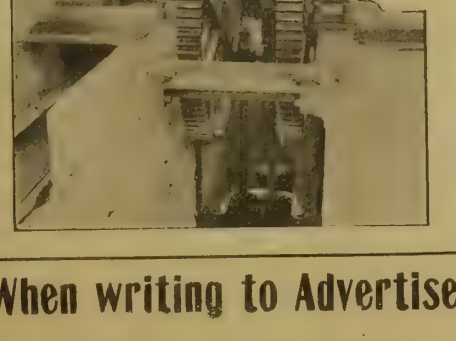

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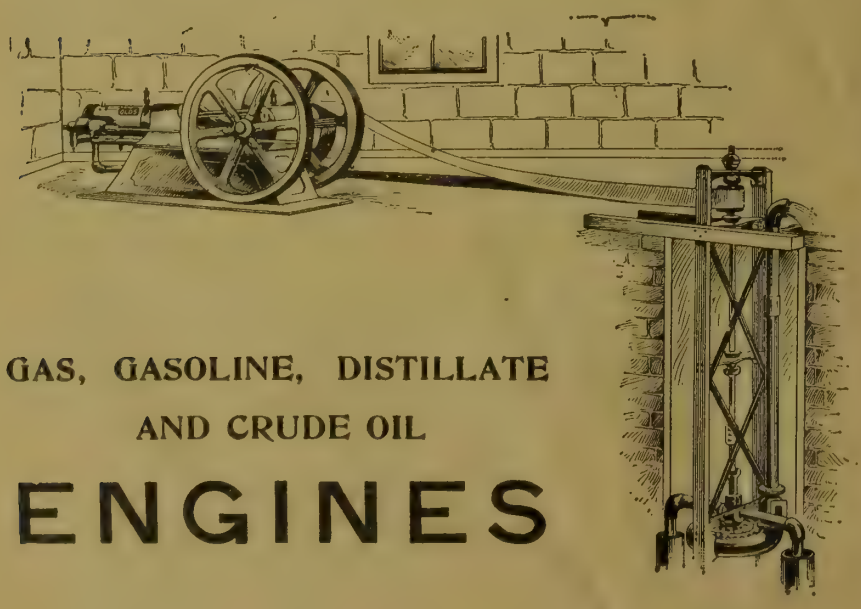

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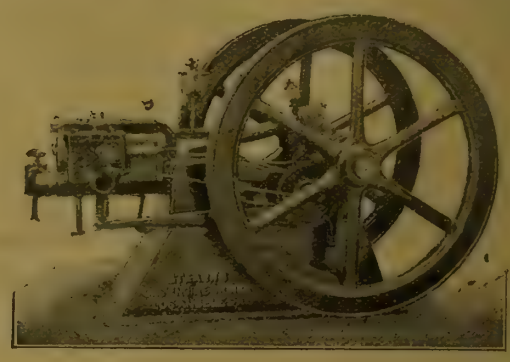

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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

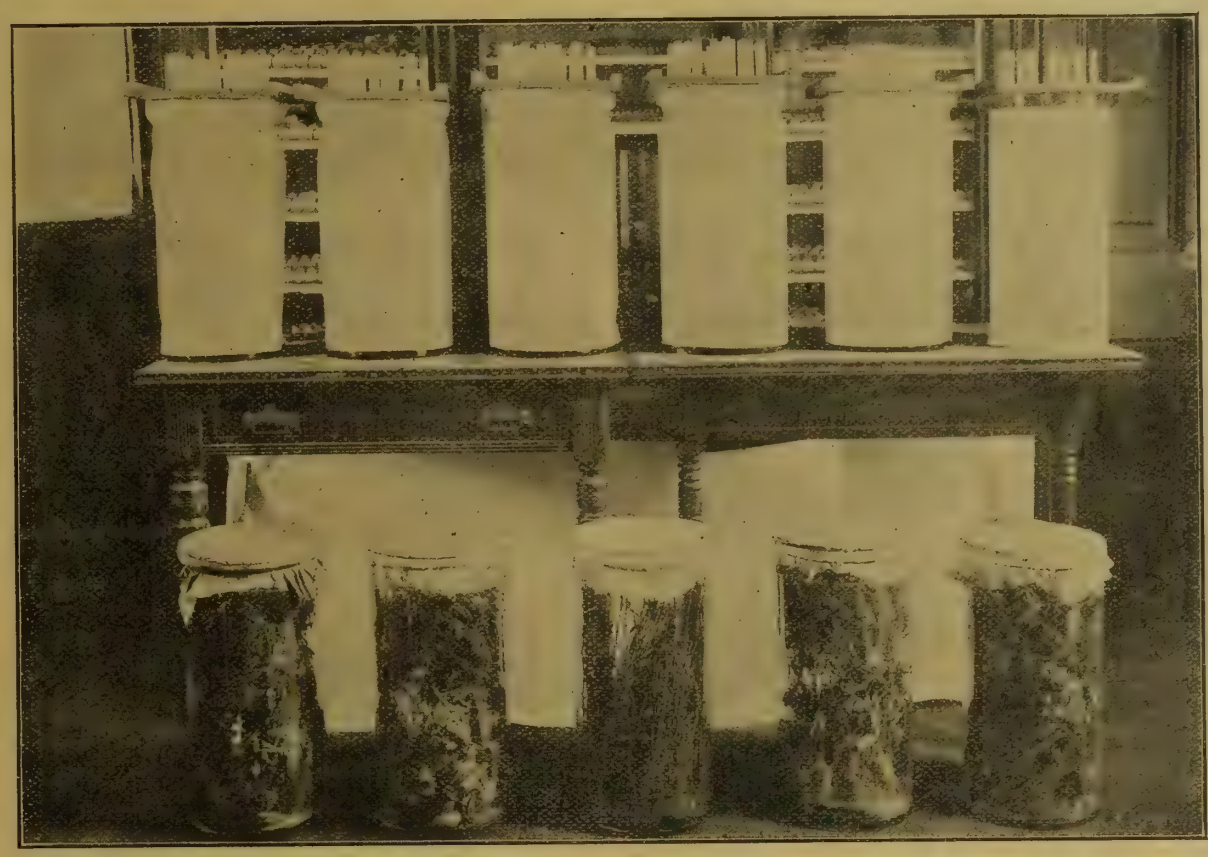
Vol. XXI—No. 9 LOS ANGELES, CAL., FRIDAY, AUGUST 28, 1903 Subscription $1 a Year

A Wonderful Insect ✂ It Promises Great Good

For some months there has been considerable talk in the papers regarding the South African insect, Scutellista cyanea, which is a parasite of the black scale. This insect is now proving itself of such vast economical value that a short article regarding its habits,its worth, and its history may be appreciated by the readers of the Cultivator.

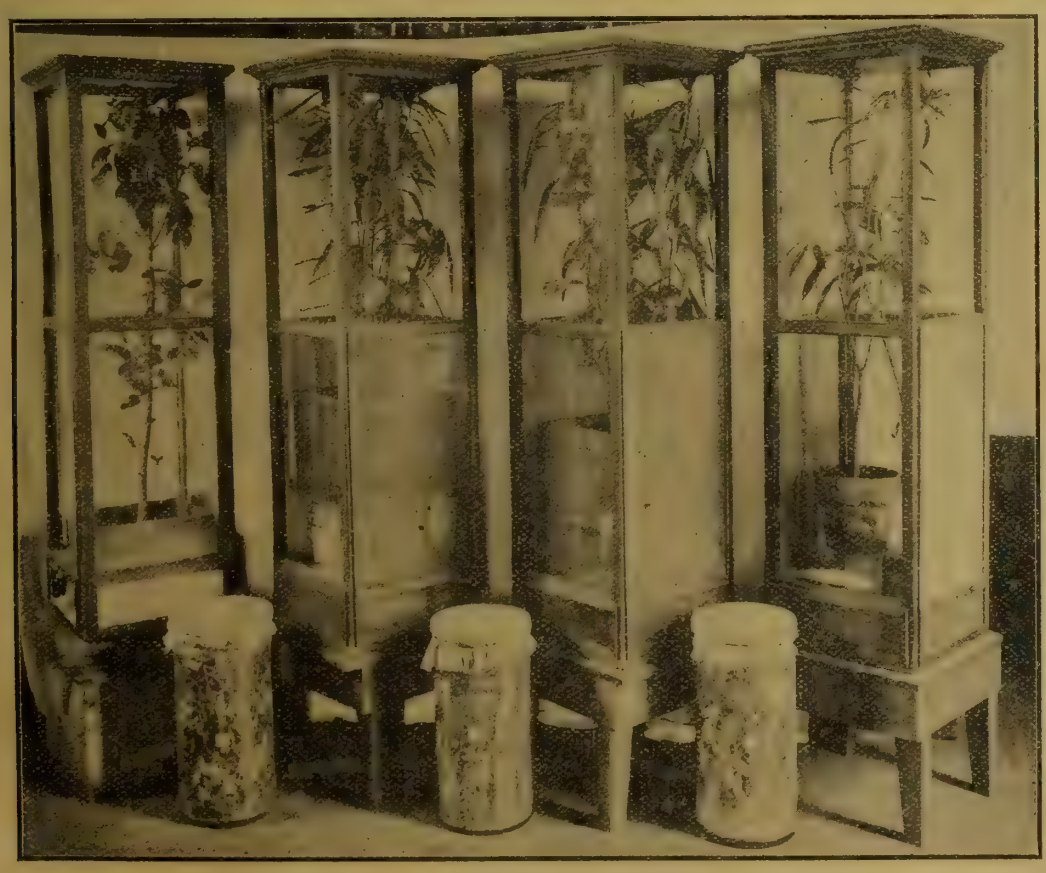
It was the pleasure of the writer to see the manner in which Alexander Craw, State Quarantine officer, handles the cages in which these insects and many other "pets" are kept and bred in his office in room 11, Ferry Building, San Francisco. Mr. Craw is thoroughly in love with these mites, and watches and attends to them in a way which has developed many wonderful results. The different forms of these cages and the jars and the manner of collecting insects for shipment are shown by cuts in this issue which are used through the courtesy of the State Board of Horticulture.

The first Scutellista which was received in this country was in 1898 through the efforts of L. O. Howard of the Department of Agriculture, and this was sent to Florida, but no results were ever obtained from it. Later Prof. Chas. T. Lounsbury, government entomologist of Cape Colony, called attention to this insect as an efficient enemy of the black scale. Several colonies were forwarded to San Jose, but no results were secured from them. In October 1901 Prof. Lounsbury wrote to Mr. Craw that he had started two boxes containing cuttings from oleander berry parasitized scale. From this shipment seventeen perfect insects were secured by Mr. Craw. Examination proved that only four of these were females, and when placed in breeding case, a small spider that was hidden in a curled-up leaf, seized and killed one of the females, leaving only three from which the millions who are now in the State have sprung.



Insect-Breeding Jars in the Office of State Quarantine Officer Craw at San Francisco, Showing Method of Breeding and Capturing Beneficial Insects for Shipment.

The insects are bred in the jars, as shown in the lower part of the illustration. In order to capture them the jars are darkened, as shown in the jars on the table. A board cover is placed over each jar and this is filled with half-inch holes. Into each of these holes a small vial is tightly fitted, mouth opening downward into the jar. The insects work up to the light, and when a colony has entered a vial, it is replaced by another, and the captured colony packed for shipment.



Breeding Cases for Beneficial Insects in Mr. Craw's Office.

The plants are shipped in from some section which is infested with scale. They are enclosed in glass and gauze, and the parasite released to prey upon the scale and to breed.

Regarding the first breeding of the insects Mr. Craw says: "On December 26, 1901, I examined a full-grown black scale from a tree in the breeding case, and found a small maggot of the Scutellista cyanea, about twice the size of the black scale egg. This convinced me that they were breeding, so no further examination was made. On February 7, 1902, the parasites began to issue from the scales. During the warm summer months we find that the Scutellista pases through all its metamorphoses in forty-seven days."

From these three insects colonies have been sent out to every county in the State where the black scale is troublesome. The manner of collecting in the little vials is illustrated in one of the illustrations. These vials are then inclosed in a wooden container and may be mailed to any part of the country. Mr. Craw recently visited Southern California to determine as to whether the shipments which had been made to Southern California have proved successful. He found them in every county not only living, but almost invariably spreading at a remarkably rapid rate.

Possibly the most pronounced results have been secured near the coast, yet it has been proved at Riverside, and other farther in valleys that the parasite will live wherever the scale does.

(Continued on page 140)

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

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Entered at post office at Los Angeles, Cal., as second class matter.

Friday, August 28, 1903

Circulation this issue 8,500

8500 THIS WEEK.

The Cultivator is still growing! This issue we print 8500 copies which go to regular subscribers. The 10,000 mark is getting nearer and by January 1st we will have that number of subscribers.

Watch us grow.

PROF. A. J. McCLATCHIE.

The Cultivator takes pleasure in announcing that it has arranged to add another writer to its staff, which is none other than Prof. A. J. McClatchie, for the past few years connected with the Arizona Experiment Station. Prof. McClatchie has a reputation which is world-wide as an authority on eucalypts, and is an all-around agriculturist and horticulturist of practical experience and deep study. He has served for several years on the staff of the State University of Arizona, and will add in many ways to the worth of the Cultivator, which we hope to increase constantly during the coming year. Prof. McClatchie will write upon eucalypts, upon general topics of horticulture, but he is a specialist in bacteriology, having had several years experience in the scientific handling of milk in California.

His writing of regular articles, however, we do not think will add as much worth to the paper as his ability to answer questions. This feature is becoming one of the strongest and best in the Cultivator. Send in your questions.

The former firm of Porter Bros. is now known as a corporation with the name "Porter Bros. in Liquidation." Trustees of this company have given a bond for $50,000 to cover the value of the local merchandise held by the fruit company. This corporation is composed of the largest creditors, mostly bankers. The liabilities are placed at $1,500,000, and the assets at $1,000,000. This corporation is a new idea in the handling of insolvent estates, and its working will be watched with some interest.

A BREAK IN CO-OPERATION.

Some little concern has been manifested by believers in co-operation by the break-away of the San Bernardino County Fruit Exchange from the California Fruit Agency. The Cultivator has not been informed from the San Bernardino side of their reason for this move, which appears on the surface to possibly endanger the best interests of the citrus industry of California. This disaffection however, is said to be largely in that particular section eminating largely from Redlands, which has always been more or less opposed to the co-operative principles which have been followed by the exchange. We give below a few words which were authorized by President Naftger of the agency, and hope next week to give further particulars.

Briefly stated, the circumstances leading up to the action of the San Bernardino County Fruit Exchange in withdrawing from the Southern California Fruit Exchange are these:

The contract entered into between the Southern California Fruit Exchange and the California Fruit Agency provided for the marketing through the Agency of all the fruit owned and controlled by all parties, who were members of the various Exchanges and associations on April 1st, and also that the Exchange would not open its doors to take in new members. This agreement was not objected to by the representative from San Bernardino County, on the Board of Directors of the Southern California Fruit Exchange, nor by any other parties.

After April 1st an attempt was made to organize the Exchange Association in Redlands, and a demand was made that the Agency should market the fruit, which demand was refused, because it was not consistent with the agreement. No claim has been made or is now made that the San Bernardino County Fruit Exchange had any membership or any fruit under its control in Redlands at the time the agreement was made. If the privilege had been granted to the San Bernardino County Fruit Exchange to have a new association organized in Redlands after April 1st, every other exchange would have been entitled to the same privilege, and the agreement of course would be violated, and the organization go to pieces.

The San Bernardino County Fruit Exchange has shipped during the season now closing, 650 carloads of fruit, of which about 500 cars were packed by the associations which we understand have voted to withdraw. Meantime, the agency, through the Citrus Union, has acquired several thousand carloads of fruit in San Bernardino county. The Southern California Fruit Exchange, and the Agency could not accede to the demands made by the San Bernardino County Fruit Exchange without doing an injustice to other parties, and since the whole co-operative movement is based upon fairness and equal rights to all, their demand must necessarily be refused.

This is in very brief terms, the whole situation.

It is by no means probable that the Southern California Fruit Exchange will be without membership or fruit in San Bernardino county.

Gen. Jno. C. Black, of Illinois, was elected commander-in-chief of the G. A. R. at San Francisco last week.

EDITORIAL NOTES.

Secretary of War Root has tendered his resignation to President Roosevelt, to take effect about the first of January. Secretary Root will be succeeded by Judge Taft, now governor general of the Philippines, who will resign from that position to come to Washington to take up his new duties. He in turn will be succeeded by Gen. Luke Wright of Memphis, Tenn., now serving on the Philippine commission. It is understood that these changes are all agreeable to the administration, save the regret in losing Secretary Root who has always been in closest relation with the President.

* * *

The government has taken a great step toward irrigation of the desert in Southern California by filing upon all the unappropriated water of the Colorado river, a few miles above Yuma. The water for appropriation is claimed to be 4,000,000 miner's inches under six-inch pressure. It is said the water is to be restrained by means of a dam which will be located in California and Arizona, and will restrain a vast body of water. In addition there have been withdrawn from entry some thirty-six townships, all in connection with the same irrigation move.

* * *

Yankee ingenuity seems to be a winner again in the construction of fast sailing vessels. The first race between the Reliance and the Shamrock was a failure because of the wind preventing a finish in the time limit.

The next race on Saturday showed the Reliance a winner with more than 1¼ miles to spare. The best average ever made by this yacht was in this race and was six minutes and eight seconds. The second race on Tuesday last was won by the Reliance, but not by the strong lead which she had formerly. The third and probably the deciding race is too late for the Cultivator to give results this week.

* * *

It may be of interest to note the former races which have led up to this one. The cup was first won in English waters in 1851 by a small 170-ton two-masted schooner. The name of this schooner was the America, and this cup has been known as the America's cup since that day. The cup was given in 1857 to the New York Yacht Club conditional on its being a trophy which might be won by a challenging yacht from any foreign country between 30 and 300 tons burden. The challenges have been as follows: In 1870 the Cambria was beaten by nine American schooners, the Magic leading; 1871 the Livonia was beaten by the Columbia and Sappho; 1876 the Canadian vessel, Countess of Dufferin was defeated by the Madeline; 1881 the Canadian vessel Atlanta was defeated by the Puritan; 1885 the Genesta was defeated by the Mayflower; 1886 the English Galatea was defeated by the Mayflower; 1887 the Scotch boat Thistle was defeated by the Volunteer; in 1893 Lord Dunraven's Valkyrie was defeated by the Vigilant; Valkyrie II challenged again in 1894, but the vessel was lost in a storm; 1895 Lord Dunraven's challenge with the Valkyrie III was defeated by the Defender; 1897 Sir Thomas Lipton's Shamrock I was defeated by the Columbia; 1901 the Shamrock II was again defeated by the Columbia.

A canal forty feet wide is to be constructed for Colusa county.

TRULY REMARKABLE.

Geo. H. Croley, the poultry supply man, of 508 Sacramento St., San Francisco, writes us as follows:

SAN FRANCISCO, AUG. 20, 1903.

CALIFORNIA CULTIVATOR, Los Angeles, Cal.

Dear Sirs: Enclosed please find change of copy for my adv. to appear in all September issues and begin Aug. 28th. This is to occupy the same space as adv. now running, (the $4 special offer ordered for July and Aug).

By the way! It may interest you to know that the result of this adv. in your paper has been **truly remarkable.** Yours truly,

GEO. H. CROLEY.

Advertisers in the CULTIVATOR now talk to 8,500 subscribers **every week**; that's why they get results.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

A SMALL TEMPEST

The defection of a few associations in San Bernardino county, some of which were associations only by promise between the alleged members made by word of mouth, should not for a moment bother those who believe that co-operation is the key to success in any undertaking at this age of the world. It is needless to argue the case with the few men who have set their judgement against that of the multitude of strong, progressive fruit growers. If present circumstances, and the experience of years in which the association ideas, did not prevail do not appeal to the malcontents at Colton and Redlands, advice nor admonition would have any weight with them. They have done their little stunt at disorganization and if the commission man gets them within a year there will be but little sympathy extended by those who faithfully hold on to the only means of salvation—the principles of general co-operation.

It has long since been settled that the chief vantage point of co-operative fruit marketing is in the selling agency. We have set forth time and again the fact that oranges and lemons may be prepared for shipment under direction of the grower, whether he does the work with his own force or through association with his neighbors. And there is not much difference in the cost of packing the fruit by the individual or by the association, perhaps a few cents per box always in favor in the association. But in the sale of fruit through a commision broker as against its sale through the growers' own agency there is often the difference between total failure and success. With the commission dealer it is the question of a few dollars on a car, made as quickly as he can call the turn on the trade and at rates the broker is not particularly interested in. He has been known a few thousand times to have stood in with the trade with a total disregard to the interest of the fruit grower. He it there and so is the fruit but the producer is in California thousands of miles away and no one to protect him from the dishonesty of the average commission man. Do we look for the orchardists to allow their only safeguard to lapse and bring about a resumption of the reign of the lawless commission system?

No doubt the commission sharks of the east rejoice at even the promise of a defection in the ranks of either the Citrus Union or the Exchange. One of the most active bidders for the privelege of slaughtering the interests of malcontents was a candidate for appointment as agent for the California Fruit Agency. He now wants to pick off the strays and get them into a commission deal. One of these prospective commission men in the orange business owes a member of the Citrus Union a large sum of money and this season is trying to get all the business he can from his long-standing creditor.

The rank and file of the co-operative growers are not disturbed by the attempted inroads of the old gang of commission men. Experience with it in former years has not been forgotten, and however plausible its promises the dark days of the early nineties will loom up as a cloud upon the ardor of the disaffected. In those days the fruit was not of poor keeping quality. Misfortune like that of last winter had not "touched" the crop, nor were there many carloads to market. But the commission men made a sad botch of selling the crop. What would they do with 30,000 cars? There would not be one carload sold at profitable prices. The old ship is safe and sound. Stay with it.

The gathering together of an exhibit of California's products at the World's Fair has proceeded far enough to show that there will be an exceedingly fine exhibit which will be a credit to the State.

TWO MINUTES.

For many years the prediction has been made that the horse would yet trot a mile in two minutes. It has been done.

Lou Dillon, a California horse owned in Santa Rosa, made the Easterners go wild Monday on the track at Readville, Mass., by trotting her mile in two minutes flat. Some time ago Dan Patch paced his mile in one minute and fifty-nine seconds, but the trotter has heretofore never been below 2:02¼, which was held by Cresceus, made at Columbus, O. The record breaking from 1818, when Boston Blue made the mile in three minutes is as follows: 1818, Boston Blue, 3:00; 1824, Albany Pony, 2:40; 1834, Edwin Forrest, 2:31½; 1835, Oneida Chief, 2:31; 1839, Dutchman, 2:28; 1845, James K. Polk, 2:27; 1849, Lady Suffolk, 2:26; 1853, Highland Maid, 2:27; 1853, Tacony, 2:25½; 1856 Flora Temple, 2:24½; 1859, Flora Temple, 2:19¾; 1865 Dexter, 2:18¼; 1866, Dexter, 2:18; 1867, Dexter, 2:17¼; 1871, Goldcmith Maid, 2:17; 1872, Goldsmith Maid, 2:16¾; 1874, Goldsmith Maid, 2:14; 1878, Rarus, 2:13¼; 1879, St. Julien, 2:12¾; 1880 Maud S, 2:10¾; 1881, Maud S, 2:10¼; 1884, Maud S, 2:09¾; 1885, Maud S, 2:08¾; 1891, Sunol, 2:08¼; 1892, Nancy Hanks, 2:04; 1894, Alix, 2:03¾; 1900, The Abbott, 2:03¼; 1901, Cresceus, 2:02¼; 1903, Lou Dillon, 2:00.

GENERAL NOTES.

Immense storms have done vast damage to grain fields and to the vineyards of France.

Five car loads of farm machinery were shipped last week from San Francisco to South Africa.

Council Bluffs, Ia., was visited by a storm which did vast damage to buildings in the city and crops about it.

One of the finest fruit packing houses in the State is about completed at Pajaro. It is 200 feet long by 60 wide and is owned by the Simpson-Hack Fruit Company.

C. H. Diamond, a New York expert poultry raiser, is so impressed with California that he will buy 150 or more acres of land in Sonoma county and raise fowls on a large scale.

Damp weather is doing great damage to the hop crop in Oregon. Vermin have infested the yards, and now the damp weather is causing the appearance of mould. A few days of sunshine are needed to correct the conditions existing.

The Agricultural College of Guelph, Canada, has for six years experimented on the relative value of planting small and large seeds. It has been demonstrated that the yield from large plump seed is greater than from small seed.

A great co-operative department store association has been incorporated in New Jersey. It will issue stock and be capitalized for several millions. It is the intention to establish mammoth department stores from Maine to California, and in all the large cities in the United States.

The Sutter county Almond Growers' Association sold at auction 120 tons of almonds on last Monday at the following prices: I. X. L., 10c per pound; Nonpariel, 10½c; Ne Plus Ultra, 9½c; Drake's Seedling, 8½c; Languedoc, 8¼c; Golden State, 8c; Peerless, 9c; Llewellan, 8¼c; Routier, soft 8c; Commercial 8c; La Prima 9c; Mixed 6c.

The grape growers and wine makers' State Convention, held at St. Helena August 15th, was attended by about 200 delegates. Congressman Bell and others addressed the meeting and resolutions were passed asking the passage of laws by Congress protecting their interests and prohibiting the adulteration of wine. A. Sbarbaro of San Francisco was elected president and B. Bruch of St. Helena secretary.

This country manufactures but little tartaric acid. It is made from grapes. It is a profitable industry heretofore neglected in the United States. A. Sbarbaro, chairman of the California Promotion Committee, has offered a prize of $25,000 to the individual who can produce a successful method for manufacturing cream of tartar from the California grape. Now, that useful article is almost exclusively manufactured in Europe.

Coast News and Notes

By R. A. Dague, 1130 Eddy St., San Francisco

A co-operative creamery has been established by farmers at Tulare.

The prune crop of Oregon will be very large this year. It is estimated at 45,000,000 pounds.

The orphan boys from the San Anselmo Orphans' Home were sent out this season into the country to pick prunes.

The Pleasant Valley Creamery is prosperous. It has 200 cows of its own and buys large quantities of milk from farmers.

The coming race meet of the Pacific Coast Trotting Horse Breeders' Association will be held at Petaluma on August 26 to 29 inclusive.

There is an epidemic of typhoid fever in and near Keswick. It has been traced to the milk from cows that drink water that was contaminated by a sewer.

A movement is well under way to establish goat ranches in Texas and California. The animals will be raised for their skins, which will be manufactured into shoes.

The Pomona Fruit Growers' Association has completed its season's work in apricot curing at the yards. The association has dried 200 tons of fresh fruit this season.

In Napa county farmers kill ground squirrels by feeding them raisins with a few grains of strychnine inserted in the pulp. They also use green almonds and strychnine.

The State Board of Trade exhibit was visited by many G. A. R. veterans who expressed themselves as astonished at the magnificent specimens of California fruit on exhibition.

In Norway, the school children, during the summer, are employed by the government in planting young trees. It is estimated that 9,500,000 spruce and pine were planted this year.

The hop fields of Pleasanton, Alameda county are the most extensive in the world. The yield promises to be the heaviest in many years. The picking season will commence about August 31.

Ninety-six per cent. of California farms are operated by their owners, 75 per cent. of whom are white. California has a larger per cent. of unincumbered homes than any New England State.

An organization has been completed at Hanford, to be known as the California Condensed Milk Company. The business of the company will be as indicated by its name. The capital stock is $25,000.

Until it was drained, 12,000 acres of land near Redding was a worthless swamp. Now 2500 cattle are doing splendidly on that land. The land was reclaimed by a canal 16 to 24 feet wide and two miles in length.

The Merritt-Fisher Company of Santa Rosa are putting in $5000 worth of new machinery in their fruit packing house and are adding another story. The company expects to handle more fruit this than any former year.

Last spring twenty-five or thirty State University students engaged to go as cooks and waiters on steamers going to Manila. They are now returning. The captain of the transport Logan praises highly those who went and returned on his ship.

The experimental poultry station recently established at Petaluma, by authority of a Stae law has opened for business. In preparation for the work Dr. Ward and Prof. V. A. Moore have for the past month been investigating the various diseases that afflict chickens.

Discussion in this State still continues over the danger to California from Porto Rico oranges. It costs 90 cents a box to put California oranges in the New York market and bu. 20 cents from Porto Rico. Many Americans are going to the island to raise oranges.

The Kern County Supervisors have appointed four deputy sheep inspectors as provided by a late State law.

At this writing the total shipments of fruit from California has been 3761 cars, as against 3724 on a corresponding date last year.

Mr. Olney, mayor of Oakland, urges that city to put in its own water plant, which he estimates can be done at a cost of three-quarter million dollars.

The late statement of Professor E. H. Twight to the effect that the stock of wine grapes this year would not be up to the average was contradicted by some parties, but the Professor insists that his report is correct.

Butte county is coming to the front with the claim of being adapted to the raising of citrus and deciduous fruits equal to any other locality. It claims its oranges ripen two months earlier than in Southern California.

The Sacramento Valley Land Company has arranged to put on the market many thousands of acres of land in forty acre tracts at about $40 per acre and supply water for irrigation at $1.00 per acre per year.

At a late convention of fruit growers, held at San Jose, Manager F. W. Crandall of the Sorosis Fruit Packing Company, stated that while in Germany he saw many boxes of California apricots opened in Hamburg, which were wet and full of sulphur fumes.

There will be 400 delegates to the National Irrigation Convention, to be held at Ogden from September 15 to the 18th. About thirty delegates will be there from California. There will be as an incidental feature a fine exhibit of fruits and grain. Prizes from $500 down to $10 will be awarded for the best exhibits.

There is to be a decided change in the curriculum of the College of Agriculture of this State. The change is from the theoretical to the practical. There will be "Care and Management of Live Stock," "Plowing," "Sheep Shearing," "Operating a Dairy," etc. The new curriculum will be patterned after that of the University of Wisconsin.

The secretary of the Interior has approved the award of contract for the construction of an irrigating canal to connect the Truckee and Carson rivers to Chas. A. Warren & Co., of San Francisco, at an aggregate cost of $942,437. The canal will be thirty miles in length and will reclaim about 300,000 acres of arid land.

G. A. R. NOTES.

It is estimated that more than 20,000 veterans and an equal number of their eastern friends attended the National encampment last week.

The Sacramento Valley Veterans' Brigade, whose headquarters were at the Lick House, gave away during the encampment nine car loads of fruit and wine.

During the week representatives of the counties of Shasta, Tehama, Colusa, Yuba, Yolo, Sutter and Butte, made presents to eastern visitors of 12,000 small bottles of wine and mineral water, 16,000 baskets of peaches, 16,000 pears, 8000 packages of nuts and many hundreds of baskets of assorted fruits.

From three to six car loads of fruit and wine were distributed free to the veterans and their friends every day last week.

Alameda county fed 10,000 veterans and their friends at Oakland August 21, that being Alameda county day.

The encampment was a great success in every way and the eastern people are loud in their praise of the royal treatment they received.

During the Civil War 325,263 soldiers were killed or died from wounds or disease from 1861 to 1865.

Long Beach is planning to erect a new pleasure pier.

Apples have begun to leave Watsonville in carload lots.

The explosion of a gasoline stove at Biggs caused a $50,000 fire.

The Griffin-Shelly Company will erect a large packing house at Gridley.

The annual meeting of the State Grange will be held in San Jose, Oct. 6 to 10.

The Exeter Sun claims that Tulare county will lead all orange districts of California.

Exeter has a pump which is lifting 75 miner's inches of water to an elevation of 255 feet.

The salmon run of the Columbia River is over, and the cannerymen are taking in their seines.

The present estimate is 550 car loads of walnuts from Southern California for this season.

The shipments of green diciduous fruits from Vacaville at present amount to 554 carloads.

Watsonville is now shipping about 100 chests of blackberries, and 25 to 30 of strawberries daily.

The newspaper men have been invited to an excursion to Imperial on the third of October.

Four hundred steers were driven from Covina to the Alameda sugar factory last week for fattening.

The Chino Sugar Factory is slicing 700 to 800 tons of beets daily. The beets average 17 to 18 per cent. sugar.

San Diego county supervisors anticipate the construction of an automobile road from San Diego to Imperial.

The standard Newton pippins are commanding $1.00 a box in the Pajaro valley. Most of the crop has been sold.

The Corning Roachdale Company is arranging to handle the dried fruit of the members of that co-operative association.

The Board of Supervisors of San Bernardino county are looking for a route for a free road up the Cold Water canyon.

Riverside is making an effort to secure the Salt Lake railroad shops, which it is claimed will disburse $50,000 per week.

A rough estimate of hops of the Sacramento Valley is 1,000,000 pounds. They are worth about twenty cents per pound.

Some of the low lands near Yuba City, Sutter county, along the Feather River are being protected by the construction of new levees.

The estimated damage created by squirrels in Lompoc and Santa Rita is $50,000. The county is supplying the farmers with poison.

The little town of Hollywood is sadly torn up over the proposed change of the name of Prospect avenue to De Longpre avenue.

The Santa Ana Dried Fruit Association have been offiered seven cents for its 115 tons of dried 'cots. They are holding for higher prices.

The Sutter County Development Association has established permanent headquarters for advertising the merits of that county in Sacramento.

Mendocino county pays a bounty of $6 for coyote scalps. To this the sheepmen have added $20, which makes a total of $26 bounty for each coyote killed.

The San Gabriel Forest Reserve is supplied with an extensive telephone system which allows immediate communication with the main office in case of fires.

Bee Inspector Pleasants of Orange county reports foul brood as far less in evidence than anticipated. Beekeepers are supporting all efforts to rid California of that disease.

The California Raisin Association have issued a statement in which it affirms that it will return all contracts and close its offices on September 1st, unless the shortage of several thousand acres of vineyards are signed up with the association by that time.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.
Continued.

In our last article we gave a general account of the Neuroptera or lace-wings. We noticed their lace-like wings, their typical mouth parts and the fact that they differed in their transformations, the lower section of group having incomplete metamorphoses. We also noted that with the exception of white ants, all preyed upon other insects and so may be regarded as our friends. In the present article, it is my purpose to consider more fully the families in this section of the Neuroptera. I shall treat the order as did Linnaeus, remarking however that most all entomologists of today separate the order into several orders, and probably with good reason. But as entomologists are as yet not in full accord as to these separations, I will hold to the arrangement of the great Swedish naturalist. Indeed, for the practical man this has its signal advantage as in nearly all our entomology the old scheme prevails.

* * * *

Bristle Tails, Spring Tails, etc.—There is a group of insects, representatives of which are not uncommon here in California, which have a caudal appendage which many of them can bend under their bodies and which can serve them as a sort of spring pole whereby they can leap for long distances. These insects never have wings, and show by their simple thorax that they never have had. These insects are probably very like the old-time insects from which most of our present species were evolved. They are found in cellars, under stones, etc. Some of them are covered with sort of scales upon which are closely set and very minute markings. Thus these scales are used with great satisfaction to test the high powers of microscopes. Sometimes the bristle-like appendages at the tip of the body are abbreviated and resemble the forceps as seen in earwigs. Others have rudimentary abdominal legs reminding us of the larvae of butterflies and moths, which is another reason for believing that they typify the old early type of insects.

Some entomologists classify these simple insects under the order Thysanura, which word means tassel-tails. There is little doubt that they are a distinct order.

* * * *

May Flies—The May-flies are easily told by their small hind wings, short atennae, and long caudal appendages. The larvae exist in water and breathe through gills, which fringe the sides of the abdomen. These are not common in California as the water is too scarce. In Michigan I have seen the streams and pools full of the larvae and have known the street lamps in Detroit and Toledo to be so enveloped by the flies that they were almost invisible. As the imago crawls from the water it casts its last skin which seems a duplicate of itself, so as it crawls forth one would think there were two insects side by side. The imago, or mature insects live scarce more than a day, and hence the name of the family, Ephemeridae. Comstock makes a separate order of these May-flies which he calls Ephimerida. These have no special importance except in the economy of nature, they help preserve the beautiful balance. They undoubtedly form a large part of the food of fish.

Dragon Flies—In the last Cultivator I spoke so fully of the dragon flies, or darning-needles, that little more need be said. They are exceedingly interesting from their beauty and value. A perfect collection of dragon flies ranks perhaps highest in beauty. Yet as elsewhere the best are costly. It is very difficult to have a complete collection of these magnificent insects. The abdomen and legs are very likely to drop from the insect. This family, Libelulidae, are so well known that little more need be said of them. They are, however, peculiar in their very large eyes and very short atennae. I have already referred to their curious labium in the nymph state. They are also remarkable for the breathing apparatus of the nymphs. Their gills are in the rectum and they draw the water through the anus or vent to bathe these organs. Upon occasion they force this water out very rapidly, which propels the insect rapidly forward. In this respect they remind us of the squid or cuttle fish. As stated before, these insects are, as nymphs, the terrors of pond or pool and when mature, of the air as well. There are few insects that are more ferocious and more to be encouraged as predacious species. The fact that they are free to attack and destroy the bee is high testimony o their courage. Many entomologists make a separate order of these. Comstock calls the order Odonata.

* * *

Stoneflies—The stoneflies—family Perlidae—though not common in California are very common in the East or in any section where fresh water pools abound. The nymphs, by which term we refer to both larvae and pupae of insects with incomplete transformations, remind us of the same in the dayflies or Mayflies. The mature insects have quite long antennae and very large hind wings. The network of the wings is very obvious. The the larvae of the stone flies are often used as fish bait.

White Ants—The Termitidae, or family of white ants, are very distinct from the family of true ants so familiar to us in path or by roadside; yet in appearance and habits they remind us strongly of the common ants. Here we have not only queen, male and worker, but a sort of large jawed, big-headed worker known as soldier. The queen lays all the eggs. She is sometimes of enormous size, her abdomen as large as one's thumb. She is enormously fecund. It is said that she will sometimes lay as many as one hundred thousand eggs a day. She is utterly helpless and is not only fed but cared for entirely by the workers. The males, like the same in bees and ants, have only the sex function. The soldiers protect the colony and not only show great valor but possess a savage bite. The workers, like the soldiers, are wingless and do all the work of the colony. Like the worker bees they are abortive females. Their home is underground or in tunnels bored by them in wood, and the population of a colony is sometimes tremendous. Of all Neuroptera, these alone are injurious. I have known them in Michigan to seriously injure greenhouse plants. I have found them at Claremont, boring extensively in trees. In South America and other tropical countries they often ruin furniture and even destroy buildings by cutting away all but the very outside, leaving only a thin shell. Humboldt said that in certain parts of the world a library would be impossible because of these white ants. I have seen a whole row of books that could be wired together by passing a wire through a tunnel formed by these termites. I have often known these white ants in the Northern United States to tunnel in the floors or beneath the floors of houses. Like the true ants, they mate on the wing. Thus it is not uncommon to see a great swarm of these white ants, as they come forth at the mating season. After mating the male dies, while the queen sheds her wings and becomes the mistress of a new kingdom, whose inhabitants may be numbered by the millions.

* * * *

Booklice—The booklice comprise the family Psociadae. They are quite common in our orange trees. Many of them are wingless. They are light colored and look not unlike lice. Their broad head and long attennae however, quickly reveal their true position. These, too, have biting mouth organs and do not suck as do the true lice. They are quick of movement and run rapidly over twig and leaf. As these psocids lay their egs they cover them with a silken thread and thus suggest the spider habit. Like others of the order they are predacious and so no harm need to be feared from their presence in the orchard.

* * *

GOOD CULTURE.

I referred in the last Cultivator to the importance of better culture in many of our citrus orchards. I believe Southern California stands at the head of all sections of the country in this respect. Yet how often variagated leaf and die-back show that even here we are not entirely beyond criticism in this matter of good tilth. There are two examples of magnificent cultivation in the La Habra valley, which can but rejoice the heart of every passerby. I refer to the two splendid orchards of Messrs. Roach and Leffingwell. These gentlemen are not budding their lemons over to oranges. They cultivate in the best fashion and their profits show their wisdom. I was glad to notice not only the deep culture but also of deep irrigation by sub-furrowing. How long will it take for our orchardists to learn, especially in case they have rather heavy soils, with a tendency to the formation of hard pan, that the only right, wise way is to use very deep furows in irrigating. Mr. Roach is only recently here, yet he shows rare wisdom in frequent visits to such men as Chapman and Leffingwell and his orchard shows that he is already among the masters.

* * * *

THE NATIONAL BEE ASSOCIATION.

It was thought by many a matter of doubtful wisdom, the inviting of the National Bee Association to meet in Los Angeles. Results proved that it was indeed very wise. The attendance was second only to the great Chicago meeting at the time of the exposition.

* * *

The two subjects that excited most interest were those of co-operative marketing and foul brood. The California Honey Exchange is ably officered and has already won a most gratifying success. It has already secured to its members much cheaper supplies and more excellent packing and grading. It will also secure a much larger price for honey the present season. Mr. Mercer's great crop of honey the present very poor year, of more than fifty tons and Mr. McIntyre's more than forty tons show very conclusively that California stands well in the lead as a honey-producing State. Mr. Mercer is surely enjoying the fruits of his success, as shown in his $1200 automobile and a further bank account of some four or five thousand as a result of the year's harvest.

* * *

The writer was gratified at the obvious tendency of the large audience to treat resolutely the foul brood pest. There was no disposition to tolerate the use of combs above a foul brood chamber. There was likewise wise objection to any attempt at pruning out foul brood cells and saving adjacent comb. We must all remember that all bacteria are insidious foes and that any thing like temporizing or half-way measures is never to be considered in any warfare with these virulent destroyers. We now have a very excellent foul brood law and for the most part, at least, very excellent inspectors. Let us give them our entire support and co-operation in their effort to eradicate the blighting bee malady from among us.

* * *

It was no mean compliment to California that the very important office of secretary for the ensuing year was bestowed upon our greatly respected Mr. Brodbeck. The next year will certainly be a very important one in the affairs of the association, as the annual meeting will be held in St. Louis. Mr. Brodbeck, as president and manager of our exchange will also do much to spread this form of co-operation throughout the country.

A WONDERFUL INSECT.

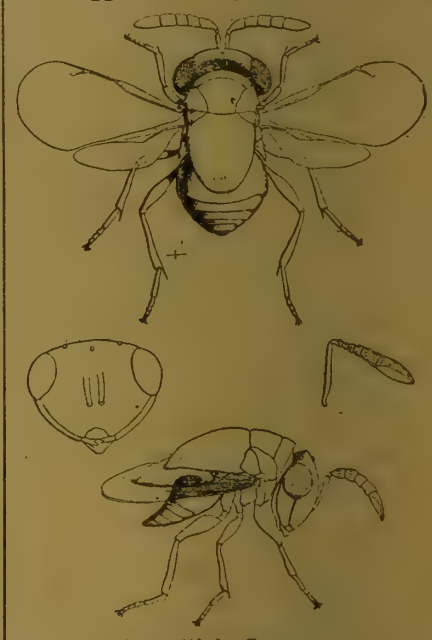
(Continued from first page)

It will require a couple of years for the few which may be released in any orchard to accomplish apparent results. The close observer will see promise of good work within a short time, but to increase in sufficient numbers to destroy the millions of the scale requires time.

Colonies of the Scutellista may be secured of Alexander Craw, room 11, Ferry Building, San Francisco. Also in Southern California, especially in Los Angeles county applications may be made to Horticultural Commissioner J. W. Jeffrey, Los Angeles, or to Inspector C. A. Day of Pasadena.

One of the closest observers of this pest is Inspector Day of Pasadena. He recently brought into the Cultivator office twigs of pepper trees, which were one mass of the scale, and under almost every scale could be found a very lively little white grub making a hearty meal of the eggs and the recently hatched scale. We asked Mr. Day to give in a few words the habits of the insect and some of his observations, which he did in the following words:

The scutellista cyanea are not true flies (Diptera,) but belong to the Hymenoptera order, along with ants, bees and wasps, under this order they come in with the family. The Chalcididae, nearly all members of which are parasitic on other insects, lay their eggs in the egg case or larvae



Ccutellisia Cyanea
The imported South African parasite of the black scale, greatly enlarged

of their victims, which hatch, and the young feed on the tissues of the host.

The Scutellista is a small black Chalcidid fly. The antennae of the male is black and of the female brown. The female lays from 150 to 200 eggs, the eggs are deposited under the shell of the nearly matured scale; from the egg the larvae of the insect hatches. The larvae, a white grub, feeds on the eggs and larvae of the black scale under which it is located. The larvae eventually passes into the pupa stage from which comes the fully developed fly. The time from egg to the full developed fly is between forty and fifty days. The adult fly does not eat the eggs or young scale, but feeds on honey dew. I have been indebted to Alexander Craw for information relating to the habits of this parasite of the black scale.

The larvae is round and white, and easily distinguished from that of the Rhizobius, which is flat and dark colored, but may be mistaken for the Tomesera Californica which it resembles. In examining scale for Scutellista we find many specimens of the larvae of the Rhizobius under the shells and occasionally one of the Tomesera, both of which are also parasites of the black scale.

There is usually found but one larvae of the Scutellista under a shell of the

scale. However, in rare instances, we find two of the pupa snugly stowed away in their temporary home.

The time of breeding for this parasite depends upon the condition of the scale. If we had matured scale, I see no reason why it should not work throughout the whole year. From my own observations this last year, I found larvae from March to November.

The introduction of this parasite is not always attended with success, the adult fly is very active and not easily caught, for the reason we are obliged to breed the fly especially for distribution. Or, we locate a colony by taking branches of trees upon which are black scale that have been parasited by the fly and place them in a tree of the orchard in which we wish to introduce them. We find the pepper tree best for this method of introduction on account of the large amount of scale on a single branch, it being possible to secure a good colony on the amount of wood we can put into an ordinary envelope for mailing.

GENERAL NOTES.

Owing to a scrap between the Georgia peach growers and the railroads, the rate on peaches has been advanced from 17 to 40 cents per hundred weight.

* * *

New York reports this as the greatest honey year in its history.

* * *

The cranberry growers of Wisconsin held their annual meeting August 18th, at the Gaynor-Blackstone Marsh.

* * *

The estimate of the grape output of the State of New York is 40 per cent of a full crop.

* * *

The New York State Fruit Growers' Association is being held at Niagara Falls this week.

* * *

The output of Florida oranges for the coming year is variously estimated at from 1,500,000 to 2,165,000 boxes.

* * *

The apple shippers convention at Niagara agreed upon an estimate of 48,614,000 barrels as the coming commercial crop for this season.

* * *

Sir Thomas Lipton has purchased a large tract of land in Georgia on which he will grow garden truck for shipment to England.

* * *

The apple crop of Canada is far below the average.

* * *

Capt. Chas. D. Sigsbee, formerly captain of the ill-fated Maine, has been appointed Rear Admiral of the navy.

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California Horticulturally...

John Isaac, Sacramento

PEAR BLIGHT ON THE DECREASE.

Word from the upper San Joaquin valley, in which section the pear blight has manifested itself with especial virulence, has been received to the effect that it is not so bad this year as heretofore, and seems rather decreasing than increasing, and that there is some hope that it has run its course and will, if it does not disappear entirely, at least cease to be so great a pest as it has been for several years past. The pear blight is a bacterial disease, and one that is very difficult to handle as it is very insidious in its nature, working entirely in the sap wood of the tree and out of sight until it manifests itself in its most virulent form. It cannot be reached by external remedies and even severe cutting back will hardly check it. It may be that there are conditions climatic or otherwise, that are conducive to its spread and that these conditions may change and the disease stop, in other words it may have run its course. Whether this is so or not we cannot state, but from reports it would seem that the disease is not so bad as it has been, and it is to be heartily hoped that it has come to its stopping place.

* * * *

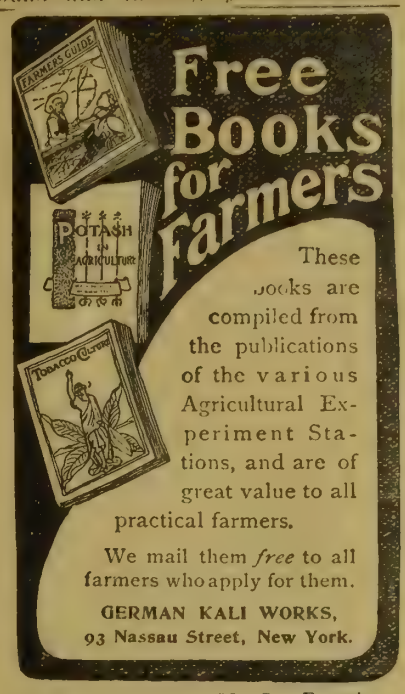
BETTER MARKETS FOR FRUIT.

It is encouraging to note that as the season advances the early promises of a good market are being fulfilled. While prices for fresh fruit have not been very high this season there has still been a fair margin for the growers and a few losses have been noted. There have been fewer red ink returns than usual this year, and growers in the Sacramento Valley state that both transportation and commission service have been much better than usual. The fresh fruit crop as a whole has not been up to a good average, but conditions have been so much better that the fruit grower will be better off at the end of the season than usual.

* * * *

SUCCESS OF THE SCUTELLISTA CYANEA

It is gratifying to note from the remarks of the papers in the south that the little South African parasite is making as good a record for itself there as it has done in the northern counties, where it first got a solid foothold. The writer has watched the progress of this little fellow from the time of its first importation from its native land, when in a package of seventeen live insects, Mr. Craw found but three living females. These were placed in breeding cases and supplied with abundant food and in a few weeks began to show their metal, for the three females had multiplied to dozens and colonies were planted in places convenient to San Francisco where their labors could be watched from the central office. In a few months these had so increased in the section where they had been established that it was difficult to find a black scale without its accompanying parasite and at the present writing it is very difficult to find black scale in large quanties in any section around the bay counties. Black scale can be found there, and always will be as it always will be in the south, but it no longer exists in such quantity as to be considered a serious pest. And here it may be well to caution our fruit growers not to expect too much from the Scutellista cyanea. It will never exterminate the black scale. When once a pest is established, we shall have it always, as we have now the cottony cushion scale and the San Jose scale, but both these have been so got under control by their natural enemies that they are no longer to be considered in the light of pests. Occasionally we hear of an outbreak of them in spots, and sometimes people express a fear that they are increasing and will be as bad as ever again, but the Vedalia, for the one and the Aphelinus for the other, soon overtake them and they are reduced below the danger line. So it will be with the Scutellista cyanea, even if it accomplishes all that we hope from it, we shall always have some black scale and sometimes we may have a good deal. But, from, present appearance there is no doubt that the natural enemy of the black scale has been found and thoroughly established.



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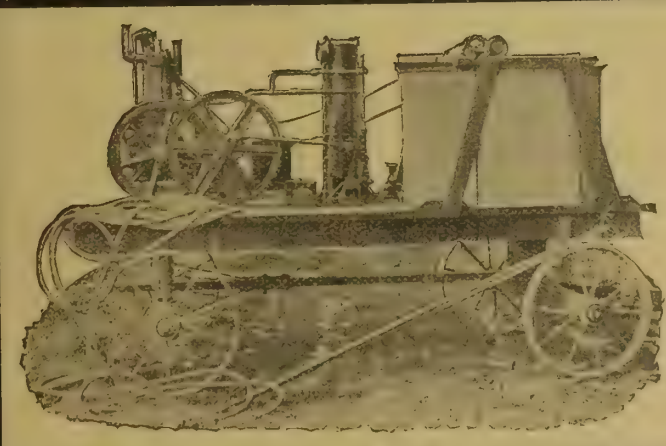

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Secretary Leffingwell reports the following:

Myra's Prince Lambert 54793—E. C. Carr to Geo. E. Platt, Los Angeles, Cal.

St. Lambert of Westminster 6043—F. L. Carlyle to W. J. Cole, Anaheim, Cal.

Amy West 164447—Daisy's Primrose W 158196—S. P. Wright to E. M. Peet, Santa Ana, Cal.

Gold Drop's Gladys 170236—F. M. Carlyle to W. J. Cole, Anaheim, Cal.

Guzzie Ballard 159259—G. Y. Coutts to E. C. Torrey, Santa Ana, Cal.

Handsome Pedro's Rosy 155325—S. P. Wright to E. M. Peet Santa Ana, Cal.

Roy's Alphea 166443—C. V. Osborn to W. A. Jacobs, Henleyville, Cal.

West 57884—W. J. Cole to F. L. Carlyle, Westminster, Cal.

Golden Beulah 119333—W. J. Cole to F. L. Carlyle, Westminster, Cal.

Pussy Primrose 71121—F. L. Carlyle to W. W. Crosier, Santa Ana, Cal.

Dotsie P. Marigold 150121—L. T. Moore to Geo. E. Platt, Los Angeles, Cal.

Amy West 164447—Handsome Pedro's Rosy 155325—E. M. Peet to Mrs. L. T. Yantis, Garden Grove, Cal.

Melia's Ethel 164996—A. B. White to Thos. H. Stafford, Los Angeles, Cal.

Canada's John Bull 6th 26027—A. H. Nettleton to Garth & Hardcastle, South Pasadena, Cal.

Jim Jeffries 63805—A. H. Nettleton to Garth & Hardcastle, South Pasadena, Cal.

Rose's Prize Lad 64753—A. B. White to Sherman Smith, Whittier, Cal.

Melia Ann Lois 169394—Melia Ann's Mollie 169083—A. B. White to Sherman Smith, Whittier, Cal.

Dot N 113203—A. H. Nettleton to Garth & Hardcastle, South Pasadena, Cal.

Dot's Daisy M 125485—O. D. Cheatham to T. H. Danker, Anaheim, Cal.

Pearl Price 132798—A. H. Nettleton to Garth & Hardcastle, South Pasadena, Cal.

Rose Keith 146895—A. H. Nettleton to Garth & Hardcastle, South Pasadena, Cal.

Melia Ann's Gaylad 63720—H. C. White to Alexander McKie, Palms, Cal.

Pedro's Prince Hallita 59163—H. C. Matteson to Henry Biggin, Redlands, Cal.

Hettie St. Lambert 164997—A. B. White to C. H. Wiliams, Monrovia, Cal.

Melia Ann's Glenlily 161701—A. B. White to C. H. Wiliams, Monrovia, Cal.

Dodge's Mc P Marion 174689—C. Dodge to Peter Goddickson, Orange, Cal.

Dodge's Mc P Pansy 174413—C. Dodge to L. C. Leake, Los Alamitos, Cal.

Santos Juanita 158185—E. N. Girard to E. M. Peet, Santa Ana, Cal.

Adelaide's Golden Lad 65474—W. S. Ladd to G. W. Gries, Ferndale, Cal.

Del Norte 65704—U. J. Noe to Henry Westbrook, Smith River, Cal.

Del Norte Chief 65792—U. J. Noe to Al Morrison, Smith River, Cal.

Prince of Humboldt 62442—U. J. Noe to C. Woodruff, Smith River, Cal.

Tommy Mercury 59140—U. J. Noe to Alf Goodlin, Smith River, Cal.

INSTITUTES.

The dates for Institutes for California as far as at present arranged to this date are as follows:

Goleta, August 28th and 29th.

Carpinteria, August 31st and September 1st.

Ventura, September 2nd and 3rd.

Fillmore, September 4th and 5th.

Fernando, September 7th.

Tropico, September 8th.

Bolsa, September 9th and 10th.

San Dimas, September 11th and 12th.

San Dimas Club Picnic, September 14th.

Upland, September 15th and 16th.

The rumor of war between Turkey and Bulgaria is thickening, and from the vast increase in the Turkish army which has been made in the last few weeks, it seems apparent that Turkey is preparing to wallop Bulgaria. Meantime the slaughter of men, women and children by both the Macedonians and the Turks continues.

THE WHOLE STORY.

"The Whole Story About Wood Pipe" is the title of a little pamphlet just issued by the National Wood Pipe Company of Los Angeles and San Francisco. This company was organized a few years ago in his city as the California Redwood Pipe Company. Its scope and the demand for its pipe which was proving so satisfactory, compelled the extension of the field, not only in Southern and

Connection of 24-inch continuous stave wood pipe with cast iron pipe through gate valve.

Northern California, but so that orders are now received from all sections of the West. On the enlarging of the concern and extension of the business the name of the corporation was changed to the National Wood Pipe Company.

Wood pipes have been in existence almost as long as men have had occasion to conduct water. The company has on exhibit at its office a section of a redwood pipe, which is nothing more nor less than a log with a hole bored through the center which has laid in the ground in Victoria, B. C. since 1862. This section was taken out of the ground in 1900 and looks as solid as if it were in the ground but a few months.

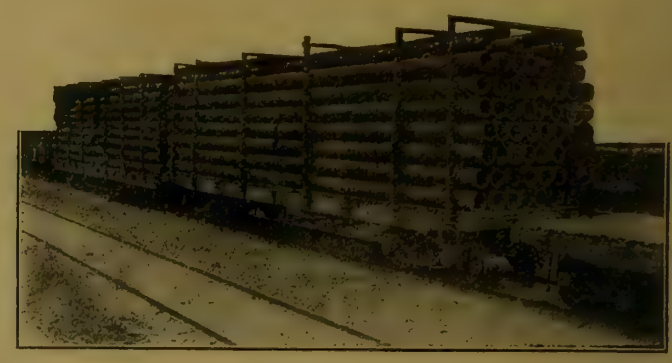
The great difficulty in the manufacturing of wood pipe has been to manufacture it economically and hold the staves together by some substance that is as durable as the wood. Good keeping wood, such as the redwood is under the ground, and constantly wet, is universally considered almost everlasting, but the bands with which the redwood pipe is held together will rust and does permit the pipes to fall to pieces. The difficulty of this manufacture was largely overcome by an invention of a machine by W. J. Woodward of this city by which the redwood pipe is bound together and at the same time is coated with asphaltum so as to make it impervious to moisture. The working of that machine is worthy of a trip to the factory to see how perfectly the wire is manipulated and drawn so tightly over the pipe, as to make each section almost invariably water tight.

This pipe is banded in lengths of 10 to 20 feet. The ends are sawed off square, and turned down to a slight taper. The joints are connected with cast iron collars the thickness of cast iron pipe. These collars taper from both ends to the center, to correspond to the taper of the pipe, but are made one-eighth inch smaller, to allow for compression in driving, which is done with a heavy maul, or sledge hammer, and driving block. In this way a joint can be made that will stand 200 pounds pressure per square inch, even before swelling, and that will never give further trouble.

The pipe is banded so as to carry a pressure of from 20 to 300 feet. The bands are spaced from 1½ to 4½ inches, depending upon the pressure and size of the pipe.

The pipe is especially adapted to orchard irrigation, is the most cheaply laid of any pipe known, and has great carrying capacity and is decidedly economical.

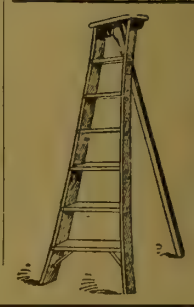
The little primer which the company issues will furnish far more information regarding this pipe than this paper can give, and it is well worth making application for by any one who is interested in conducting water. We give on this page a couple of illustrations, one showing the pipe loaded on a car giving something of an idea of its construction, and the other showing the manner of laying under engineering difficulties.



Machine Banded Pipe, 6, 8 and 10-inch.

NAMES OF FARMERS WANTED.

We want every farmer to read "THE PACIFIC TREE AND VINE," one of the best journals on horticulture, poultry, dairying and home-making published in the West. Twenty-first year. Thirty-two large pages. Subscription 50 cents. Send us five names and addresses and 10 cents for a six months' trial subscription to 918 I street, San Francisco, Cal.



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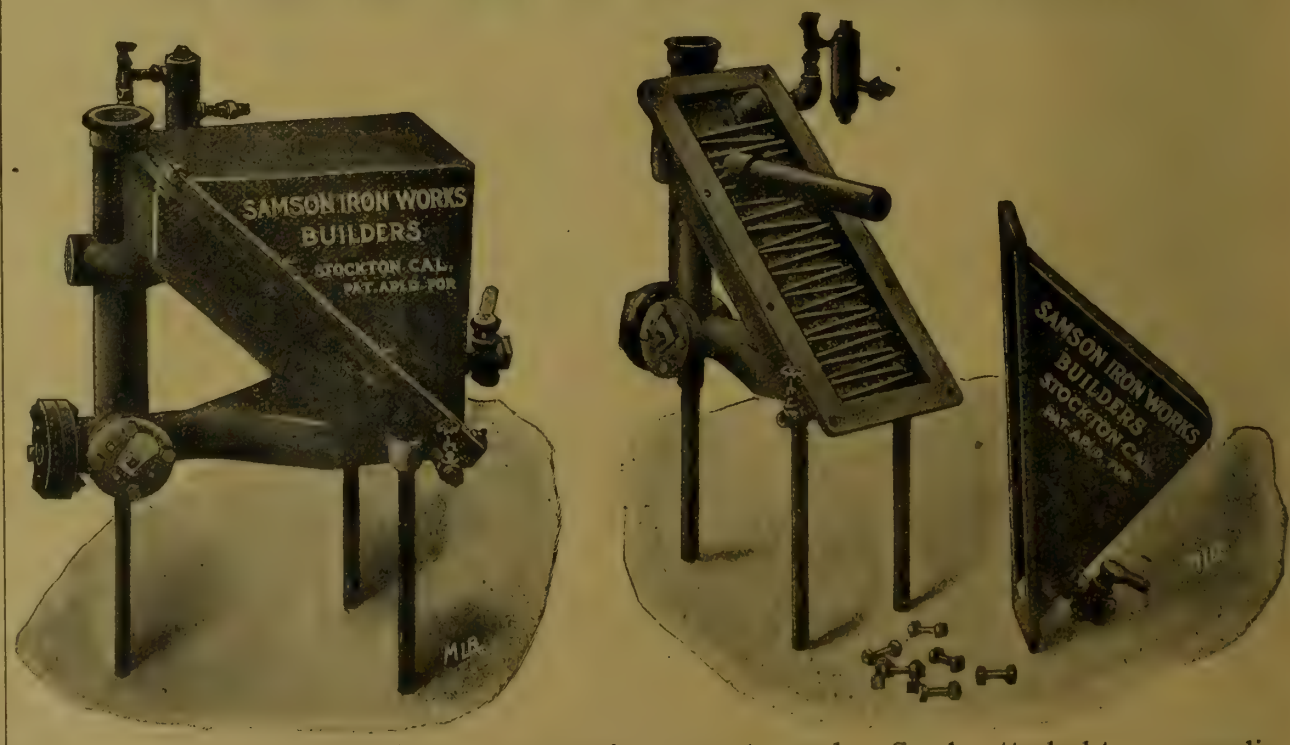
"TRIPOD"

An ideal Fruit Pickers' Ladder: For Lightness, Ease of Handling and possibility of getting right into the tree, by throwing the single leg over limbs. Every step double bolted. Sizes 6 to 12 feet. Circulars free.

GEO. H. MARSH,
Pomona, Cal.

Samson Crude Oil Generator

FOR GASIFYING CRUDE OIL AND LOW GRADE DISTILLATES



They are simpler and more reliable than any other generator made. Can be attached to any gasoline engine. They are low in price. Address

Samson Iron Works **Stockton, Cal.**

700 Extra Fine Lemon Trees

Cheap. Also a few W. Navel, Valencia and Kumquats, Mandarin, Tangerine, Lime and Satsuma or Oonshiu. Headquarters for Citrus trees on Citrus, Trifoliata or Frost Resistant Stock.

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We're in the lead with **Citrus Seedlings** for season of 1904. Navels and Valencia Budded Stock, Walnuts, Ornamentals, etc.

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Citrus Stock

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FOR NAVELS VALENCIA NAVELENCIA LEMONS **1903**

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J. MILLS, MANAGER

RIVERSIDE, CALIFORNIA

East Main Street Pottery Works

Ollas, Vases and artistic Pottery, and Pottery for Floral Plants. Fancy Hanging Baskets and Wall Baskets, Etc., Rose Propagating pots a specialty.

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Take East Lake Park Street Car.....

5,000 to 10,000 Citrus Trifoliata Seed Bed

Plants. Good, thrifty stock in fine condition for planting now. One year old plants. Six to ten inch at $15.00 per thousand.

ARMSTRONG NURSERIES

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Land Plaster FOR SALE

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California Portland Cement Co.'s PLANT,

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IT WILL PAY YOU AS WELL

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THOS. C. WALLACE

Riverside, Cal. Phone James 1611 Los Angeles, Cal. Phone Black 611

DECIDUOUS FRUITS

By J. W. MILLS, Ontario, Cal.

INDIAN CORN AND LIMA BEANS

Editor Cultivator:—Which is the best variety of Indian corn to plant? Which is the best time to plant in cold districts? What is the average yield in bushels per acre from damp land? Would it be profitable to plant on good stony mesa land and irrigate?

What is the best time to plant lima beans in a cold district like this? Is the "small white bca " or the "red bean" a profitable crop compared with the lima? What is the avcrage yield per acre of each variety Are beans subject to any disease in this valley? Would beans do well on good stony mesa land here, without irrigation? —P. and H., San Gabriel.

The best varieties of corn for grain crops are white and yellow Dent. There are several types of these varieties. The flint corns are also extensively grown, but the former are more generally grown in the corn district of southern California.

It is not advisable to plant before the middle of May and if the weather continues cold and chilly at that time, better wait till the first of June. The yield will run from 25 to 50 bushels per acre, exceptionally good crops may go to 60 bushels. Judging from corn crops that we have seen growing on stony mesa land between Los Angeles and Santa Monica, we would think that corn would do well on your mesa land with irrigation.

Lima beans are like corn as regards moisture and temperature. They should not be planted before the first of May and if the season is backward, two weeks latter may be better. The small "white bean" will make a crop when the lima will sometimes get burned by the sun, though the lima is the most profitable to raise where the climatic conditions are right. We would not expect to make a success of raising lima beans in the San Gabriel valley unless we had a remarkably cool, damp summer to help us out. In the event of a spring that was as wet as the last, land which is well tilled after each rain and until planting time, should produce good white or red beans without irrigation, provided the subsoil retains the moisture well. The average yield per acre in bushels is about 35. That means a good crop in sections where beans are raised for shipment. Beans are not subject to any serious diseases in your section that we know of. The lima bean is very subject to the ravages of a worm that destroys the beans in the pods when green. This injury, however, seems to be confined to small garden patches. Growers of lima beans along the coast do not complain of this pest.

* * *

SCUTELLISTA CYANEA.

Editor Cultivator:—Can you send me or tell me where I can get a few Scutellista Cyanea for destroying the black scale? I have an orange orchard and the black scale is very troublesome. I read in your paper that they were doing good work.—Subscriber, Nestor.

We have none of the insects, but you can secure them no doubt, from Mr. J. W. Jeffrey, Horticultural Commissioner for Los Angeles county. Should he not be able to send them, write to Mr. Alexander Craw of the State Board of Horticultural Commissioners, at San Francisco. You will no doubt be able to secure some from him.

* * *

ROOT KNOT

Editor Cultivator:—We had apricot trees in an apparently good condition, on the same ground were growing white oak trees. After tne apricot trees were seven or eight years old, they commenced to die back and have not born fruit since. On examining the roots we find root knot on all of them. Was this knot caused by being damaged in cultivation or by the oak trees and what is the remedy? Peach trees in the same orchard are affected the same way.—H. P. Hudson, Escondido.

The knot on the roots of your peach and apricot trees is caused by a fungus growth of some sort. Experiments with greenhouse cultures and in the field, show that it is a contageous disease. There is no known remedy that will cure a tree once affected and permit it to return to fruitfulness. Our experience with it in the north, leads us to conclude that it is folly to try to doctor a young orchard that has become unfruitful on account of the root knot. We tried it for over ten years and quit. We tried trimming off the knots and washing the scars with a one to ten solution of bluestone and water with no good results whatever. We thought we had at first, but it only proved to be a delusion that kept us working with them for nearly ten years longer. The orchard finally went to the woodpile and we advise you to send yours there too. The oak trees have nothing whatever to do with the root knot. The fifteen acre orchard referred to above was planted partly on land newly cleared of oak trees and partly on land on which no kind of a tree had grown for 25 years. There was no difference in the qualities of knot in the different portions. Some of the worst knots were underneath the crowns where it was impossible for a hoe or cultivator to reach them. They were also found far below the reach of the plow.

* * *

TRAINING THOMPSON'S SEEDLESS VINES

It was recently stated by a horticultural writer that the growers on the desert had a new way of training their Thompson seedless grape vines, namely on wires in trellis form. That is the most profitable way to train that variety, it having been demonstrated years ago that the vines produced much more than when tied up to a stake, provided severe late frosts did not occur, in which case the vines tied to the stakes bore the most. Vines which are strung on a trellis in vineyard form have the main body of the crop from a foot to three feet closer to the ground than when tied up straight to a stake; when trained the latter way, the vegetative growth is stimulated at the expense of the fruit. When the vines are grown horizontally as when on a trellis, the circulation of the sap seems to be affected so that the vegetative growth is retarded and fruit clusters develop more abundantly. Considering all things, the trellis is the most profitable in the long run, even if the loss by frost is considerable some seasons.

CLIMATE AND CROP REPORT

CLIMATE AND CROP REPORT

Condensed from the weekly Bulletin issued by California Section of the Climate and Crop Service, in charge of Alexander McAdie.

Sacramento Valley—The temperature was nearly normal and conditions were favorable for all crops and farm work. Hop picking progressed rapidly and will be completed in some sections within a week. Dry feed is plentiful and stock are in good condition. Grapes are maturing satisfactorily; the yield and quality are reported better than last season's. Late strawberries are plentiful. Peach drying and almond hulling are progressing. Prunes are doing well. Citrus fruits are thrifty.

* * *

Coast and Bay Sections—The weather was somewhat warmer. Light rain fell on the northwest coast. Grain harvest is completed except in a few places and thrashing is progressing rapidly. Hops are in excellent condition and picking will be commenced during the present week. In the Santa Rosa and Pleasanton districts the crop is much heavier than expected and the hops are of excellent quality. Prune harvest has commenced; the crop is large and of excellent quality. Pears, plums, peaches and apples are yielding heavily.

* * *

San Joaquin Valley—Clear weather, with warm days and cool nights. Cutting and drying are progresing rapidly. In some sections the greater portions of the crop has been gathered. Prune picking has begun in most orchards. Grapes are coloring; the crop will be large. The first carload of tokay grapes was shipped from Lodi this week. Almond harvest has begun; the yield is very uneven. Stock are healthy and doing well. Pasturage is scarce.

* * *

Southern California—Abnormally high temperature prevailed in the southern portion, followed by high winds and light rain in some places. In the vicinity of San Bernardino fruit and shade trees were prostrated by the wind. The extreme heat damaged growing vegetables to some extent, but there are no reports of injury to the fruit crop. Grapes ripened rapidly and will be ready for picking earlier than usual. Oranges are in excellent condition and a large crop is expected. Walnuts are dropping and will be a short crop. Irrigating water is plentiful and being used liberally.

* * *

Eureka Summary—Harvesting and thrashing continue; reports indicate average crop. In the central and southern portions of the county barley is exceptionally good, potatoes light, apples immense; in the northern and interior portions crops are generally less than average.

Tom Johnson, mayor of Cleveland, O., is nominated by the Democrats of that State to run for Governor.

1903 CATALOG

JUST OUT—SEND FOR ONE

FRESNO AGRICULTURAL WORKS

FRESNO, CAL.

Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

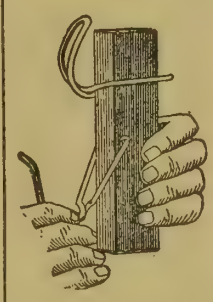
If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL.

Station K, LOS ANGELES, Cal.



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Woodward's Adjustable Prop Bracket

The Only Bracket That Will Adjust Itself to Any Prop

They are cheaper than any other Prop Bracket that can be made, and will positively not get out of order. No nails or splice to break; no time spent in repairing; can be padded if you wish without nailing. Stand props as near the bottom of trees as possible and they will not be in the way of cultivation If the Bracket is sprung apart so as to go on partway of the Prop it will take a side hold and will never slip. If the Bracket should be too loose press the sides together so as to make a little friction on the sides of Prop and it will stay in place better while being put up.

Having reduced our price to $17 per thousand, we would be pleased to have a continuance of your patronage and can fill all orders promptly.

J. K. Woodward & Co.

171 NinthSt. Riverside, Ca

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

CHRONIC COUGH.

Editor Cultivator: Will you kindly inform me through the California Cultivator of a remedy for my horse, who has been afflicted with dry cough for the past two years. It does not appear to affect him seriously, he eats well and is otherwise healthy—J. A. W., Los Angeles.

Get one pint bottle of terpine hydrate and codeine sulphate. Give ½ ounce three times a day.

* * *

ECZEMA.

Editor Cultivator: Being a subscriber of the California Cultivator I wish you to inform me about a horse which is itching all the time, trying to scratch itself at every post. In constructing the stable I used boards of an old chicken house. Maybe its chicken lice or fleas. Hoping you will answer these lines I remain respectfully yours. B. Hefti, box 774, San Diego.

Treat as prescribed for eczema in several of the previous issues of the Cultivator. Chicken lice only live a few hours on a horse, they do not propagate there.

* * *

KNEE SPRUNG.

Editor Cultivator: I have a five-year-old horse badly knee sprung; worse in one leg than the other. It does not make him lame, but seems very weak and tires easily. Is there any help for it? W.

This condition is caused by a contraction of the tendons of the oblique flexor and external metasarpus muscles above the knee. The leg can be straightened by cutting these tendons by the subcutaneous operation and bandaging the legs so that the the tendons become longer in healing.

Under the new law all veterinary practitioners who do not have State certificates, must pass an examination before the State Veterinary Board by September 1st or quit practicing.

The new crop of hay is producing considerable impaction colic in horses.

MILK UTENSILS.

Milk utensils for farm use should be made of metal and have all joints smoothly soldered. Never allow them to become rusty or rough inside.

Do not haul waste products back to the farm in the same cans used for delivering milk. When this is unavoidable, insist that the skim milk or whey tank be kept clean.

Cans used for the return of skim-milk or whey should be emptied and and cleaned as soon as they arrive at the farm.

Clean all dairy utensils by first thoroughly rinsing them in warm water; then clean inside and out with a brush and hot water in which a cleaning material is dissolved; then rinse and lastly sterilize by boiling water or steam. Use pure water only.

After cleaning keep utensils, inverted, in pure air, and sun if possible, until wanted for use.

A correspondent of Hoard's Dairyman gives the following method of keeping a cow from kicking: "Take a rope of suitable size, 12 or 15 feet long, make a loop at one end large enough to slip over the cow's head and back to the brisket. Bring the rope back of the left gambrel and up into the loop on the neck. Bring the leg forward until she is brought on to three feet, tie the rope to the loop on the neck. She holds herself in good position for milking, and in a short time becomes a quiet gentle milker, has been my experience."

BEE SUPPLIES—G. G. Wickson & Co., 128 N. Main Street, Los Angeles, Cal.

DAIRY AND LIVE STOCK

C. B. SESSIONS, ASSOCIATE EDITOR

FOR MILCH COWS.

Typhoid fever has often been ascribed to a contaminated milk supply. As during the summer and fall when this disease prevails cows are frequently forced to get their drinking water from sloughs and stagnant ponds which may be contaminated with the germs of typhoid fever, it is important to know whether such germs find their way into the milk supply through the cow or by contamination of the milk after it is drawn from the cow. This matter has been the subject of very careful investigation by E. F. Pernot, the Oregon Experiment Station, who administered various germs, including that which causes typhoid fever, to a cow and examined the milk and excreta obtained, for the presence of the germs. It was found "(1) that a pure culture of typhoid bacilli mixed with water and given to the cow to drink did not pass into the milk; (2) that they did not pass from the cow alive with the excreta; and (3) that they did not pass from the cow alive with the urine. * * * Although the results in this experimnt have been negative in transmitting the germs from polluted water to the milk supply through the cow, it does not follow that the danger from cows using such water does not exist."

As cows frequently stand in the water to escape flies or cool themselves, and their udders may thus become contaminated with the polluted water, investigations were made to determine to what extent germs in this way enter the teats and contaminate the milk. "The cow used in this work was a Jersey about 4 years old, with fair shaped udder, good teats of medium size, reasonably easy to milk. The teats were dipped in water containing the germs and allowed to dry naturally. After the lapse of several hours milk was drawn and examined for the germs, but none was found, showing that they were not taken into the udder by capillary attraction through the teat orifice." * * *

There is no doubt that there is a great variation in the teats of different milch cows. A teat possessing weak sphincter muscle is imperfectly closed at its extremity and must necessarily be more accessible for bacteria to enter through the duct and invade the contents of the udder, while another teat having good muscular contracting power, would be less likely to admit germs. Yet it is almost impossible that any moist muscular orifice should so contract as to shut out an organism of such minute dimensions especially those like typhoid, which are actively motile.

It is generally believed that microorganisms gain access to the milk in the cow's udder through the teat, but in this case they did not, although the result might not be the same with all cows.

Even if it should be proven that milk is not contaminated in this way, the danger is not removed, because the body of a cow which has been wading in impure water is itself a source of contamination, since it is impossible to milk such a cow "without particles of material falling into the milk and carrying with it innumerable germs. This we know occurs to such an extent that it is customary to strain the milk to remove the particles of foreign matter. When a bacteriological study is made of this sediment the number and kinds of these germs found are truly surprising. If all the germs thus entering the milk would remain in the sediment it would be all right, but unfortunately, dropping into the milk with this foreign matter, the germs are liberated through constant agitation incident to milking. As warm milk is a very suitable material for germs to grow in, especially typhoid-fever germs, the number which would multiply in twelve hours from the few introduced at the time of milking would be enormous and dangerous." On this point, R. H. Forbes, of the Arizona Station, says:

BEE SUPPLIES—G. G. Wickson & CO., 128 N. Main Street, Los Angeles, Cal.

SLEEPY HOLLOW HERD OF HOLSTEIN CATTLE

We have just received from the Eastern States two carloads of officially tested cows. This has overcrowded us for the present, and to make room we are offering some excellent young cows for sale. They are all in calf to our great herd bulls, and right now are in fine condition to ship. For full particulars write

R. M. HOTALING
Rialto Building San Francisco, Cal.

IT'S THE RECORD!
THERE ARE IN USE 400,000
De Laval Cream Separators
and the demand still grows.
No farm or dairy complete without a De Laval.
We carry the largest stock of Dairy apparatus and supplies on the Pacific Coast. Send for catalogue.
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TO FARMERS, STOCKMEN, DAIRYMEN:
SUGAR BEET PULP
(Kow-Sauer-Kraut)
also MOLASSES
FOR SALE

"KOW-SAUER-KRAUT" 50 cents per ton F. O. B. cars fresh from factory. Conceded to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.

MOLASSES, 75 cents per barrel. Consists almost entirely of carbohydrates. (sugars) cheapest and best food for fattening stock of all kinds. Send for testimonials regarding feeding value of molasses for **working horses, fattening cattle** and **growing pigs** and **calves.**

Los Alamitos Sugar Co., Los Alamitos, Cal.

ANOTHER PROP KNOCKED FROM UNDER HIM

Our "would-be competitor" the DeLaval Separator, in his efforts to counteract the fact that the U. S. Separator is the better skimmer, has tried various schemes to prop up his trembling frame and waning popularity.

He used to try the "Churnability" bluff, but this prop was knocked out long ago; then he howled about flushing the bowl with hot water, but the U. S. corrugated cups quieted him on that; and lately it has been the "cold skimming" dodge, whenever he has run up against the U. S., but alas this also has been knocked from under him, so that now about all the prop he has to lean on is that of "bluff."

That readers may fully realize how little ground there is for advocating cold skimming, we give below a portion of an article that appeared in the June 18th issue of *The Kansas Farmer*, headed "Abuse of a Hand Separator," by Prof. Edw. N. Webster, formerly of the Kansas Agricultural College and now one of the Government Dairy Inspectors:

"Other abuses were in time met with in the tendency of agents to follow methods that would be condemned anywhere else. One of the principles of separation understood by all creamerymen, is that the warmer the milk the more complete the separation. Yet agents will run cold milk through just to beat the other fellow. This is wrong for various reasons:

"In the first place the milk should be skimmed when warm in order to get the best separation of the cream.

"It should be skimmed when warm in order to give the calves and pigs the warm skimmilk, and

"It should be skimmed fresh from the cow in order that the cream may be quickly cooled to prevent the development of bacteria.

"Everything is against cold skimming and in favor of warm skimming, and the tendency of these contests is to give farmers erroneous ideas in regard to the hand separator."

What further evidence is necessary to convince you that the DeLaval has to depend on other things than its merits to sell its goods?

Remember, the U. S. Holds World's Record

For further particulars as to its merits, write for catalogues.

Vermont Farm Machine Co., Bellows Falls, Vt.

331

WANTED

A young man who is a good milker and experienced in caring for cows, to take charge of our small herd of Jerseys. A good opportunity for a man who desires to add scientific knowledge of feeding and management to practical experience. Good wages to the right man. Address, with references,

C. W. Leffingwell, Jr., Whittier, Cal.

FOR SALE

YOUNG HOLSTEIN BULLS

Percheron Brood Mares and Stallions all Registered. Write or call.

Minnewawa Stock Farm, Fresno, Cal.

WANTED Twelve—more or less

—high grade **JERSEYS**

from this county or adjoining counties. Must be strictly good individuals.

W. M. MARCH

1798 W. 39th St. Los Angeles, Cal.

THOROUGHBRED POLAND CHINAS

Either sex for sale. Young Boars ready for service. **CLARK & BISHOP,** successors to Lingden & Sons, **KINGSBURG, CAL.**

THOROUGHBRED BERKSHIRE HOGS

FOR SALE

GEO. C. ROEDING, FRESNO, CAL

—F. A. MEACHAM—

BREEDER AND IMPORTER OF

RED POLLED CATTLE
SHROPSHIRE AND
AMERICAN MERINO SHEEP

Both Sexes For Sale

Live Oak Ranch PETALUMA, CAL

CREAMERY SUPPLIES

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
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Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

G. G. WICKSON & CO.

123 N. Main St., Los Angeles, Cal.

SAN FRANCISCO PORTLAND

Removal Notice

OF

The Cutter Analytic Laboratory

On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from **Fresno to Berkeley.**

Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is

The Cutter Analytic Laboratory
Rialto Building, San Francisco

OUR SPECIALTY IS

CUTTER'S BLACK LEG VACCINE

If your druggist does not stock our products, order direct form us. We pay all transportation charges

When a cow wades belly deep into a filthy pool festering in the heat and fouled with excretions, her milk will inevitably suffer. Not only will the foul odors of the water she drinks be imparted in some measure to the milk, but millions of bacteria, adhering to her hair and udder, will, when she is dried off and milked, find their way as dust into the milk pail. Quick souring of milk in warm weather and undesirable changes in butter and cheese,caused by bacteria, result.

It would seem that these are sufficient reasons why cows should be prevented from having access to foul water, but there is the additional reason of danger to the health of the animal from disease germs which may be present.

Although these are dangers that it is well worth while to guard against it is evident, as Mr. Pernot points out, "that outbreaks of typhoid fever occur which, if the cause were carefully traced, would be found to come from the milk as it leaves the cow, but from vessels which had been washed with contaminated water," and he calls attention to the fact that "since the advent of the cream separator, which is usually driven by steam power, steam has been used to clean all the utensils in the dairy. Not only is it efficient for this purpose, but as a germ destroyer there is nothing better, because it penetrates to the bottom of the seams and heats the metal to such a degree as to kill dangerous germs—U. S. Farmers' Bulletin.

HOW TO PREVENT HOG CHOLERA.

First—By keeping feeding floors, sleeping places, tanks and vessels in which swill is mixed scrupulously clean.

Second—By breeding from mature sires and dams, which will give us litters of very much more constitutional vigor than where immature sires and dams are used.

Third—By avoiding inbreeding, which will invariably reduce the stamina and invite disease.

Fourth—By avoiding fall litters. The second litter invariably reduces the mother's vitality at just the time cholera is abroad in the land, which leaves her and her litter very easy prey for disease. More than 90 per cent. of cholera outbreaks are among the sows that raise fall pigs or their litters.

Fifth—By avoiding overfeeding or any sudden changes in feed, especially from dry feed to green. Anything that will derange the stomach and cause indigestion will derange and weaken the whole system.

Sixth—By feeding (especially in growing pigs) a part ration of feed rich in protein; such as wheat, middlings or ground oats, and avoiding an all-grain ration of corn. They need something to help build up bone, nerve and muscle, which corn will not give. Nothing is better for this purpose than a good run on clover pasture.

Seventh—By taking all the care possible that the disease germs are not carried to your herd. Dogs are believed to spread the disease in the majority of cases. The germs are found in the excrement of the hogs and are carried on the boots and clothing of men or on the feet of animals and birds. It is not safe to allow stockbuyers or anyone that is around stockcars or stock yards to be around where hogs run. Doves and crows are also instrumental in spreading disease and should be shot whenever they come onto the premises. A little care in these particulars will often save your herd.

Eighth—Admit all the sunlight possible into your hog buildings and onto your feeding floors. One minute, yes, one second, of bright sunlight will kill the liveliest hog cholera germ in existance. No amount of cold will do this. See that your herd are always supplied with plenty of pure water and plenty of shade. Salt and ashes should always be at their disposal. In short, anything that will help build up a strong, healthy body will be a safeguard against hog cholera.—Forest Henry, before Minnesota Farmers' Institute.

BEE SUPPLIES—G. G. Wickson & Co, 123 N. Main Street, Los Angeles, Cal.

CALIFORNIA CREAMERY OPERATORS' CONVENTION.

The program of the fourth annual convention of the California Creamery Operators' Association, to be held in the State Fair Pavilion at Sacramento, September 10th and 11th, has been issued. There will be addresses as follows: "Some Recent Evolutions in Creamery Machinery;" "The Selection of Cows for Dairy Purposes;" "Recent Developments in Mechanical Refrigeration;" "The Skimming Station in Its Relation to the Creamery;" "How Can Our Dairy Quotations be Made More Satisfactory to Shipper and Dealer?;" "Dissemination of Cattle Diseases Through Creameries;" "Pasteurization Applied to Creamery Work;" and "Dealing With Cream Shipping Patrons."

The "Selection of Cows for Dairy Purposes" promises to be an exceptional instructive discussion. The address will be delivered by Prof. W. L. Carlyle of Colorado, with discussion by N. A. Chisholm, Jersey breeder, and Peter Krog, in charge of the herd of Holsteins owned by the Pierce Land and Stock Company.

One of the features of this meeting will be a series of cash prizes amounting to $380 for the butter contest. The judges will be Prof. E. W. Major of the University of California, and W. H. Roussel, of San Francisco. The president of the asociation is E. H. Zimmerman of Watsonville, and the secretary is Wm. H. Saylor, 114 California street, San Francisco.

WORLD'S FAIR NOTES.

All prizes in the Department of Live Stock of the Louisiana Purchase Exposition will be awarded by individual judges on the "one-judge system," and by comparison. These judges will be chosen for their especial qualifications and their intimate knowledge of the characteristics and qualities that make valuable the breeds upon which they will give judgment and their awards will be final.

* * *

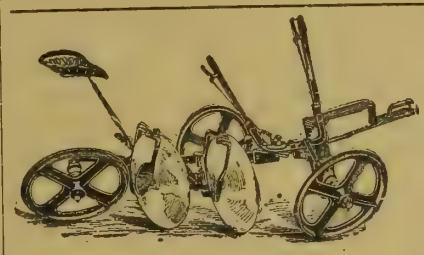
Judges are instructed to award in each instance only prizes of such grade as the merits of the individual animals fully justify. Absence of competition will not be accepted in any instance as justification for awarding high-class prizes to animals of medium or inferior quality.

* * *

Only such animals as have been awarded first prizes in their respective classes will be eligible to championship awards, and the championships will in each instance be awarded by the judge who awarded the breed's class prizes.

* * *

Entries for the several divisions must be filed with the Chief of the Department of Live Stock as follows: Horses, asses and mules, by July 16, 1904; cattle, July 30; sheep, August 20; swine, August 20; poultry, pigeons, pet stock and dogs, September 10.



You Kant Kultivate

Your land with a stick—that day has passed. The successful farmer of today uses a

Benicia Reversible Disc Plow

to turn the soil over and then keeps it in shape with one of our special cultivators. Talk it over with us, we'll help you in the selection of the best for your purpose.

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Sacramento San Francisco New York

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.

C. W. LEFFINGWELL, JR., Sec'y., Whittier, Calif.

Ramona Herd

REGISTERED JERSEY CATTLE

Geo. W. Thomas, Riverside, Cal.

FOR SALE

Gold Drop's Gladys, 170236. Sire, Sunmaid's Gold Drop, 34272. Dam, Lotty's Gene, 117516. Dropped Jan 4, 1901. Price $100. **W. Jay Cole,** Anaheim, Orange Co., Cal.

MARIGOLD'S ORANGE TORMENTOR

Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address **John C. Keefe, Orange, Cal.**

G. I. Lytle

HIGH GRADE, STANDARD BRED JERSEYS

2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad

AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.

GEO. Y. COUTTS Orange, Cal.

LEMONITA HERD

Leffingwell Rancho, Whittier, Cal.

Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
Terms reasonable. Liberal reductions to those coming from a distance.
No charge for service on cows having authenticated fat or butter records.

Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

E. E. MOORE, Compton, Cal.

Venadera Herd

OF REGISTERED JERSEYS.

Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices

GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

GEO. E. PLATT Station B, Los Angeles

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM

SAN BERNARDINO, CAL.

JERSEY BULLS OF ALL AGES

FOR SALE

Melia Ann and Golden Lad blood in lead. Write or come and see.

LEWIS BRADBURY DUARTE, CALIF.

Coulson's No. 3 Condition Powder For Poultry

This is one of the Greatest Poultry Foods in the World

The secret formula was invented and is known only by A. R. COULSON, manufacturing chemist. The principal parts are compounded by him, after which they are mixed under his personal care in a large electric mixing machine which mixes half a ton of it in ten minutes. It is put into sacks, packages and cans as soon as it comes out of the mixing machine.

This Condition Powder is Different From Any Other Condition Powder or Egg Food

This condition powder has given such satisfaction that it is used the year round by over a thousand different poultrymen who buy package after package of it. Some of the largest poultrymen use a hundred pounds of it a month. They mix one small cupful in the feed for 100 fowls, which makes them digest food better and lay more eggs and keep healthy.

This Condition Powder Will Cure Sick Fowls

Quicker than any other remedy, it will cure Roup, Cholera, Indigestion, Leg Weakness, Appoplexy, Swell Head, etc., quicker than anything else as it acts on the liver and cleanses the disease and poisonous impurities from the system, purifies the blood and gives the fowls appetite and ambition. It cures roup and swell head because it breaks up the cold and also gives them appetite to eat and helps to digest what they do eat thus giving them strength and health.

When Fed to Healthy Hens

By its aid to digestion it enables the hens to get more strength out of the food; thus they will lay more eggs. Their combs will become bright red and healthy looking, showing good circulation and healthy livers. A great many hens are too fat and lazy; they should be given a good dose of this condition powder along with some protein feed and let them change that fat into eggs. This condition powder develops the pullets and gets the old hens down to business.

This is the Season of the Year That is Hard on the Chickens

A great many chickens and hens will get sick and die during the next two or three months unless the proper precautions are taken. Some will get other diseases.

Disease is easier prevented than cured.

A Dose in Time Saves Nine

To prevent disease and also to cure before too far gone put **COULSON'S NO. 3 CONDITION POWDER** in the feed, a little every day or a good dose twice a week. The moulting season is now at hand and the moult is a great strain on the fowl.

Coulson's Number 3 Condition Powder is the Best Tonic For Moulting Hens

It also contains the ingredients that will make the FEATHERS GROW. It is worth its weight in gold for moulting hens. No matter what food you use mix with it a little of COULSON'S No. 3 CONDITION POWDERS, during the moulting season.

It will increase your profits.

It assures assimilation of the food elements needed for egg and feather making.

It is good common sense to take care of the hens and feed them properly. They will pay you back.

COULSON'S No. 3 CONDITION POWDER makes the hens get down to business, moult quickly and get back to laying in the fall. Try it once and you will always want to use it when you see its beneficial results. We make tons of this condition powder and can furnish you with any quantity.

PRICES—1 pound can 25c. 3 pound can 50c
5 pound package 75c 7 pound pail $1.00
10 pound package $1.35 25 pound package $3.00
50 pound sack $5.50 100 pounds $10.50

SPECIAL OFFER

10 pounds sent, express prepaid, to your nearest express office station in California for $1.50.

25 pounds sent, express prepaid for $3.25. Larger quantities shipped by freight.

The Moult.

It is a great strain on the body of the fowl, and unless properly nourished with the right kind of feed, many hens will die during the moulting season.

It will pay you to spend a little extra on feed at this season and save the hens.

COULSON'S EGG AND FEATHER FOOD is what your hens need, and they need it bad at this season of the year. Poultrymen who fed
COULSON'S EGG AND FEATHER FOOD
last year during the moulting season will feed it again this year, you bet, for they know it is the boss feed to bring out the feathers in a hurry and give the hens a beautiful, glossy plumage. You can always tell a flock of hens that have been fed on COULSON'S EGG AND FEATHER FOOD as they have so much nicer feathers and better appearance.

Can you afford to neglect your hens, when you know that Coulson's Egg and Feather Food must be good, as there are 3000 sacks a month of it being used?

Ask for it at the feed stores, or send to factory.

A. R. COULSON & CO., Petaluma, Cal.

Testimonial

Malaga, July 24, '03.

To whom it may concern:—We, the undersigned, have been using Coulson's Egg and Feather Food since last February, (six months) and find that it does everything that is claimed for it and we are very much pleased with it.

Signed MISS L. M. STUDDARD,
MISS K. L. RICHARDSON.

A. R. COULSON & CO.

Manufacturing Chemists

772-774 Main Street, Petaluma, California

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

POULTRY-KEEPING MADE EASIER.

The Cultivator's recent invitation to prove one's interest in the Poultry Department by speaking to its editor, leads me to submit a few remarks. Having had several years of California experience in care of poultry, I feel free to state my opinions on subjects that once interested me but very slightly.

Why is it that poultry feeders continue directing the novice to soak alfalfa hay in water, either cold or hot? The hens invariably refuse to eat such alfalfa greens. They also have to be starved to make them partake of bran mash to which the greens have been added. If chopped fine in a clover cutter and fed dry very little need be wasted, but, even if fed without cutting, the hens get the full value of the stiff straws, as scratching in it to look for more dry leaves gives needed exercise.

Though I never soak alfalfa hay, I find my birds are fond of fresh alfalfa chopped and soaked in cold water. They will skim out the very last scrap of alfalfa, and drink the water as well, and fowls afflicted with roup recover on this ration and develop sufficient appetite to swallow grain once more.

Another suggestion I beg leave to offer is regarding the care of chicks in the brooder. One of the most fertile causes of loss is crowding. A very effective way to prevent the chicks from crowding together in one section of the brooder is to have the yard fenced to prevent them from getting together at any time. My easiest experience was when one long 4-section Los Angeles brooder was placed in a barn provided with windows to admit the sunlight.

Each section of the brooder had two yards, one inside and one outside the barn, a small door permitting the chicks to choose at will whether to be indoors or not. Both yards were not only fenced, but also roofed with wire netting, so fine meshed that even small chickens could not get through. This arangement kept the chickens in their proper pen, and at the same time excluded cats. The roofs were on hinges, so that a person could enter when necessary to clean the pens. However early a chick took its constitutional walk, he was sure to find water, and a little dry grain, charcoal, etc., with which to make merry until breakfast time. Cats wander about, though prevented from making depredations on the chicks. The chicks were happy always, and neither cried nor crowded.

Why is it that so few poultry writers neglect to recommend the use of sulphur and lard to keep down vermin? It is a safe and sure remedy on fowls that are three months old, and is used by mixing to a paste and applying by rubbing a little under each wing, on the head and about the vent. It need cause no commotion in the flock if done at night, one hen quietly treated, returned to the roost and the next in turn.

If the pens are kept decently clean and are sprayed occasionally with water in which a little crude carbolic acid and copperas are mixed, there will be no vermin nor offensive odors about the place and one can look at a hen every day and still enjoy eating eggs.

There is no special virtue in making hard work of your avocation if you find it possible to avoid it.

—Madam Patty Partlet.

AMERICAN POULTRY LEADS.

The Australian test of the laying quality of hens being held at Sidney, New South Wales, is proving that the American bird is a leader. In this test seventy pens of six pullets each are entered, and the egg production for the first three months, viz., April, May and June, ranges from 360 eggs from six pullets to as low as six eggs.

For this test, three pens were sent from the United States; one pen of R. C. Brown Leghorns and two of White Wyandottes. The place of honor is held by the American Brown Leghorns with 360 eggs. The next place is held by the Silver Wyandottes, owned in Australia, with 339 eggs. The third place is held by the American White Wyandottes with 302 eggs, fourth place by the Australian Buff Leghorns with 270 eggs; fifth by the American White Wyandottes with 265 eggs.

The other seventy pens were all of Australian breed; the best few of which are respectively: Buff Orpingtons; Silver Wyandottes, Black Orpingtons; Langshans; Buff Wyandottes; Silver Wyandottes; White Leghorns, etc.

In the present competition some extra cockerels were sent over and these sold for $25 each for the White Wyandottes and $16 for the Rose Comb Brown Leghorn cockerels, in spite of the fact that there were no other Rose Comb Brown Leghorns in Australia. The eggs of the leading pen in this contest weigh 24½ ounces to the dozen, as against 24 ounces per dozen for the White Wyandottes.

The age of these pullets range from 11½ months down to 4½ months. The ages of all the American birds are 11 months, and most of the Australian birds are younger.

The results of this test are such that it is determined another shall be held next year, in which 100 pens from Australia, America, England and New Zealand will compete. It will begin April 1, 1904. American breeders are invited to furnish ten pens for this competition, and Canadian breeders three. There must be nine pullets in each pen, in order to be sure that six will arrive in good condition. They must not be over one year old and must be sent prepaid to San Francisco, from which the charges will be paid by the committee to Sidney, these charges to be deducted from the money received for the hens when sold at the end of the competition. These pens must be sent this fall in order to become acclimated before the competition begins.

While large turkeys excel in weight, the smaller fat, plump turkeys will sell at a higher price per pound.

Bones are valuable for poultry, chiefly for the phosphate of lime they contain.

It is often the case with breeders that cheap birds, cheap eggs and cheap men go together.

As a rule, the pullet that begins to lay earliest in life is the one to lay the largest number of eggs through life.

The heavy sitters should have shallow nest boxes and rather flat nests; otherwise there will be many broken eggs.

All beginners in poultry raising are advised to start with a few birds, increasing the number as they learn how to handle them.

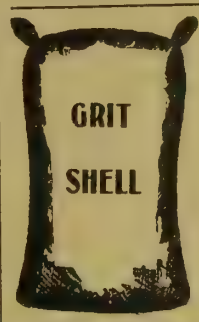
JACOB KREGER
Route 1 - Anaheim, Cal.
BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
Eggs and Stock for sale at reasonable prices

White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices. **G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.**

The largest poultry supply house in the United States
KOW-KURE BAG BALM
LEE'S STOCK CONDITIONER
LEE'S FLYO-CURO
COTTON SEED MEAL
"THE ECONOMIC FEED"
Endorsed and Fed by Leading Dairymen and Stockmen
HENRY ALBERS
315 South Main St. Los Angeles, Cal.

Don't believe all we say but just enough to try our Poultry foods.
Emery's Pure Meat Meal Emery's "B. B. & B."
Ask your nearest dealer for them and take no imitations.
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

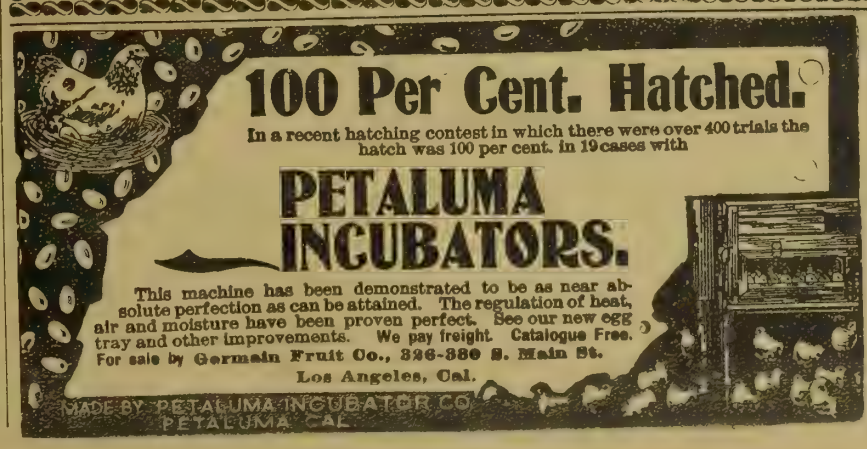


From Siskiyou to San Diego—anywhere in this great
STATE OF CALIFORNIA
You can, during September, use the best poultry
GRIT and SHELLS
At San Francisco prices. The shells are clear white and granulated the proper size for chickens, so that there is no waste. They are not "kiln dried," but retain the substance the fowls need. The "Henteeth," or grit has sharp edges, which it retains until consumed. It is impossible for it to wear smooth.
100-lb. Sack "Henteeth," the best poultry grit } $3.00
100-lb. Sack Granulated Oyster Shells } Freight Prepaid
Send for samples before buying to make sure you are getting the best.
GEO. H. CROLEY, Poultry Supplies
508 Sacramento St., SAN FRANCISCO Catalogue Free

WHITE PLYMOUTH ROCKS
GIVEN AWAY
"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.
Eggs—13 for $2.00.
INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2.50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.
Mrs. A. Basley
Near Los Angeles, Alma St. Prospect Park, Cal.

Cocoanut Oil Cake
THE BEST
Feed for Stock
Chickens and Pigs
For sale in lots to suit. By
El Dorado Linseed Oil Works Co.
208 California St., San Francisco, Cal.
HENRY ALBERS, Agent, Los Angeles

MATURED
Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.



A REVIEW OF THE BREEDS.

There are eighty-seven varieties of standard bred chickens, and each one of the varieties may be bred for a number of special objects. However, we divide all the varieties into four classes, as follows:

1. Those noted for egg production.
2. Those noted for meat production.
3. Those noted for meat and egg production.
4. Fancy fowls.

All the so-called egg breeds are sometimes called non-sitters and are comparatively small in size, active and of a nervous temperament. These fowls are great foragers and well calculated to secure a considerable portion of their living when given a free range.

Those fowls that are kept for meat production, as a rule are larger bodied, slower moving and naturally require very much less exercise than the small active nervous birds kept for egg production.

Where meat and egg production are expected to be combined in one fowl, then unquestionably one of the so-called middle breeds, or general-purpose fowls should be chosen. They should be fairly meaty, but the length of breast bone and of leg are not desirable. What is required is something of the same idea in poultry that governs the producer of Shorthorn cattle. What we want is a short, blocky body, the only difference between a Shorthorn steer and the table bird being that in the latter case the under line is of more importance than the upper line.

Fancy fowls may be kept with profit under the most favorable conditions. If one desires a particular breed of fancy fowls largely for pleasure a fair profit may oftentimes be secured, yet not so large an income should be expected from fancy breeds as can readily be secured from the breeds noted especially for their utility.

Egg Breeds	Mediterranean Class	Leghorns, Minorcas, Spanish
	Hamburgs	
Meat Breeds—Asiatic Class		Brahmas, Cochins, Langshans
Dual-purpose Breeds—American Class		Plymouth Rocks, Wyandots, Dominiques
Fancy Fowls		Polish, Games, Silkies, Frizzles, Rumpless, Yokohamas, Bantams
Most Hardy		Leghorns, Plymouth Rocks, Games, Wyandots
Least Hardy		Spanish, Polish, Hamburgs

—Up-To-Date Farming.

By feeding a variety a better appetite is maintained.

Confined fowls require bone food in some form. Where fowls have a free range there is no need of artificial preparations.

For breeding fowls, select those that come up to the standard in points, but do not discard a good specimen of robust constitution for a slight defect.

It is not always the largest fowl that is the most vigorous, but the one with full bright eyes, heavy bone, compact body and quick movement.

The cost of producing poultry meat of the form is less than the production of pork and beef, and yet it sells for as much and is better eating. Don't neglect the farm flocks.

A correspondent writes that his business is fruit, poultry, truck and dairying. This is a splendid combination of industries. The poultry can make meat and eggs out of the waste of the other three. But he must have his hands full of work.

It is only in exceptional cases that it is advisable to keep hens after they are two years old, as after that they are past their prime as egg producers and will not pay as well as pullets. The early hatched pullets and the one-year-old hens that molt early make the best winter layers, and eggs in winter pay the best profit.

MY VOW.

When I get rich, I'l quit the road for good
And stay content at home, as each man should
Who has a home wherein the faithful wife
Through years of lonesome labor spends her life;
I'll give some younger man my time worn grip
And let him take my routine monthly trip,
When I get rich.

When I get rich, at home I'll gladly stay,
And give my wife some comfort every day;
I'll smooth away the wrinkles from her face
That time has all too soon begun to trace;
I'll lighten all her labors, great and small,
And if she would consent, I'll bear them all,
When I get rich.

When I get rich, I'll give with lavish hand
To help the fallen rise in every land.
I'll give to spread the gospel far and wide,
To feed and clothe the poor on every side;
I'll advertise that I have funds to spare
In doing good to others everywhere,
When I get rich.

When I get rich. Why make so rash a vow?
A voice within me whispers, even now
Thou are already rich in resource grand—
A voice that now can cheer, a helping hand,
A heart that now should beat with love divine—
Give what thou hast, give freely what is thine,
For thou art rich.
—Charle W. Scarff, in Ram's Horn.

THE TREASON OF LOYAL BENHAM

A warmer place than Harrison's Landing on a midsummer day would be hard to find. So thought Loyal Benham, lieutenant in the Federal navy, as he steered the dingy alongside the green, barnacle incrusted piles of the little wharf. His ship, the gunboat Maenad, of the James river flotilla, was riding on the current only a quarter of a mile away, yet the bronze red foreheads of the dingy's crew were moist with sweat beads, in spite of the long service that had made even the sweeping man o' war stroke child's play to their willing arms.

Benham left the boat and went up the wharf toward the big house, once the home of a wealthy planter. It was the usual many windowed type of southern mansion, with long, low, roomy wings on each side, its facade graced with a veranda supported by noble Ionic columns. The house faced the James river. The lawn had once sloped down unincumbered to the water's edge, but now the grilling sun and the trampling of many feet had yellowed the turf.

With the house for a nucleus had upsprung that mushroom growth of war—a camp. Tents, slave quarters, and outbuildings were swarming with wearers of the Federal blue, lying in the shade or bustling to finish some work that the fates had decreed should be completed that scorching morning. Benham heard the medley of familiar sounds—the clatter of accoutrements, the neighing of horses, laughter, jests, curses, and wound through all, like a silver thread in a sombre hued scarf, the mellow, detached notes of a bugle call, robbed by distance of its persistent command. He caught a whiff of the dinner in course of preparation at the company's kitchens, but walked sturdily along through the heat waves crinkling around him to the main door of the house. Passing the great flag which was hanging dejectedly against the staff in the windless heat, he raised his cap in salute to its brilliant folds, and then accosted a sentry presiding over the entrance. "I want to see Gen. McClellan. I have a message for him from Capt. Crane."

The sentry brought with a bang his musket to present and let Benham pass. He crossed the broad veranda, entering through the hospitably wide doorway the gloom of the hall. Everything went green, then dark, before his eyes, accustomed to the dazzle outside, but gradually he became used to the change. The hall was broad and high, wainscoted with mahogany, and hardwood floor still slippery and reflectant as a mirror. In the middle of the hall a graceful spiral staircase, its carved bannister dented and chipped by vandals, wound its way to the second story. Overhead was the remains of a splendid chandelier, judging by the few prisms that still broke the light into a score of variable hues. Near the door hung the portrait of an old man of the aristocratic type, whose proud, high bred features and disdainful eyes seemed to throw from beneath their glowering brows glances of scornful hate and defiance at the unbidden northern guests. The painting fascinated Benham, and he was still under its spell, heedless of the orderly vainly trying to attract his attention wihout speaking, when the thumping clatter of a saber on the stairs succeeded in accomplishing that in which the orderly had failed.

"Maj. Graham," exclaimed Benham, turning.

"Hello, Loyal!" cried the newcomer. "Come to see the general?"

"Yes, sir; but only to bring my captain's acceptance of the general's inviation to ride with him and his staff tomorrow afternoon," answered Benham.

"The general's ridden out to Gen. Keyes' division and won't be back until retreat, but I'll give him the message myself. Come up to my room a while, won't you?" And behind the orderly's back the major went through the expressive pantomime of filling a glass and draining its dregs.

Benham accepted, and as they went up stairs the major said, "You're coming over to ride with us tomorrow, aren't you?"

"Yes," answered Benham, "and I shall be glad to see something of the country—more than can be seen from the river, I mean."

As his companion spoke the major opened the dor of his room. When Benham entered, an atmosphere heavy with stale tobacco smoke greeted him, and he could hardly restrain a gasp when he realized that he beheld the desecration of a shrine. It was a girl's room, as the remnants of dainty hangings, the muslin draped dressing table and the bed, the curtained book stand, and the delicacy of the chairs and table witnessed. But, alas, the sacrilege! Benham saw that the hangings, now dusty and dirty, had caught fire and been partly torn down, several chairs were totally disabled by masculine misuse, and sticky rings from the bottoms of glases defiled the top of the dressing table.

"Pretty place to lodge a bachelor like me, eh, Benham?" said the major. "First thing I did was to set that sham mosquito netting over the bed afire when I was enjoying a nocturnal smoke, and the whole camp crowded in here to put it out. Wish they'd done as well by me. You mustn't take a chair without careful inspection of the soundness of the legs."

"The fair owner will never recognize her room, should she ever come back," commented Benham.

"Poor girl! She must have left in the deuce of a hurry. See here." And the major opened the closet door, disclosing a pathetic display of feminine apparel, evidently collected for flight, but abandoned at the last moment. Benham stooped and took from the heap a small bronze slipper. To him there was pathos in these girlish belongings exposed to the thoughtless view of aliens. He quietly slipped the shoe into the pocket of his blouse, and though he long sat an apparently absorbed listener to the major's yarns, he was wondering if the owner of the confiscated shoe was as dainty as its size promised.

That afternon Capt. Crane told Ben-

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ham to take the whaleboat and depart on no less prosaic a quest than the location of a sand bank. The good captain felt that his reputation in the service depended upon the properly holystoned condition of the Maenad's deck, and the sand used for this cleanly office was nearly gone. Benham felt a little ill used, but that did not temper the heat, so he was much pleased when, after a row of six miles, he discovered just sich a white bank as the captain had seen in his mind's eye. Setting the men at work filling the sandbags, Benham wandered idly down an inviting path, allured by its promise of shade, and followed it into the woods a short distance.

Suddenly he was startled by the sound of a man's voice. He instantly drew his revolver and slowly advanced, hidden from the speaker by a tangle of vines. The path opened out into a wood road, across which a trio of untidy, ruffianly union soldiers made a barrier with their clasped hands to detain a tall, slender young woman, whose dark eyes sparkled with indignation as she confronted her tormentors with a dignity that betokened her good breeding. In spite of her coarse gown, ill fitting and shabby, Benham felt that she was independent of things external to prove herself an aristocrat of the South.

"Where are yer goin' my pretty maid?" one of the three demanded.

"An' more to the pint, what has yer got in that air basket?" asked another.

"Yer needn't be askin' so perlite," sneered the third. "You pet these snivellin' rebs like live lords; but this yer's contraband stuff and shan't get no further."

"It's nothing but a loaf of white bread and a bottle of wine for my sick father," said the girl stifling her anger in the hope of saving her treasure. "Please let me pass."

"Not so fast," said the first speaker, with an insolence of tone and look that warned Benham of the necessity for speedy interference. "We want that wine and I want a kiss. Those pretty lips er yourn are too nice to be kept fer cussed Johnnies." He snatched at the basket, catching the girl by the wrist. She winced and drew back.

Almost before her cry of terror the soldier found himself lying on some convenient blackberry briers, while his companions were gazing helplessly at the muzzle of a revolver held by a young man in the undress uniform of a lieutenant in the Federal navy.

"Now, get!" commanded Benham. "You're a disgrace to the uniform, you cowardly rascals. It's just such fellows as you are that Gen. McClellan is glad to hear of."

The three men slipped off, not daring to whisper the curses that sprang to their lips.

Benham bowed and spoke to the girl. "You can hardly bear to hear a word just now from one bearing our uniform, I fear," he said, "nor can I ever express how deeply ashamed I am of these men; yet, if you would honor me by letting me accompany you home——"

He paused and she answered him shyly. "Indeed, sir, I thank you heartily for your kindness, but my home is not far from here, and I have no fear that the men will come back" and her eyes twinkled as she thought of their ignominious retreat. "Still, if I am not keeping you from any duty——"

"Keeping me from no duty and giving me a great pleasure," he said gallantly, as they walked on together.

They soon came to a clearing and a rough log house.

"There is my home," said the girl, extending her hand to Benham; "so now I will say goodby, and again many thanks for sending those marauders away."

"Would you mind—won't you please tell me your name?" stammered Benham.

"Phyllis Yorke," she answered.

"Oh, by Jove!" he cried, remembering the name he had seen written in the fly leaf of a book in the despoiled little room now occupied by Major Graham. "Miss Yorke, I went to your old home the other day, and I want to tell you how sorry I am for it all—indeed, I am."

She looked up, wondering at his recognition of her name, thankful for the sympathy of this friendly foe, and her eyes filled with tears.

"It was hard," she said softly; then added, after a pause, "I must go now. Good evening.

(Continued Next Week.)

TOMATO RECIPES.

Baked.—To bake tomatoes, wash and dry large round ones, and remove a thin slice from the top of each. Scoop out the inside of each, leaving a good wall. Chop this pulp fine, add to it a tablespoonful of melted butter, a teaspoonful of onion juice a teaspoonful of chopped parsley and a tablespoonful of finely rolled bread crumbs to every six tomatoes. Salt and pepper to taste. Return to the tomato shells, and put on the slices that were removed from the top, place a tiny piece of butter on each, and bake about twenty minutes.

Stuffed.—Tomatoes may also be stuffed with a rice forcemeat, and baked as described above. To make the forcemeat, take one-half cupful of boiled rice to every six tomatoes. Flavor it with onion juice, a finely chopped green pepper, six finely cut mushrooms, and the tomato scooped from the shell. Season to taste with salt and pepper, and fill the shells with the mixture. Place the tomatoes open side down in a tin, place a small piece of butter on each, and bake for about twenty minutes. Remove them with a griddle turner, and garnish with parsley.

Fried.—To fry tomatoes, put two tablespoonfuls of butter in a frying pan, and add to it a tablespoonful of finely chopped onion. Cook the onion until it is yellow and remove it. Cut the tomatoes in halves, let a little of the juice drain from them, place them in the pan, and cook for five minutes. Turn them and cook them five minutes longer.

Fried.—Tomatoes may be salted and peppered, dipped into beaten egg and cracker crumbs and fried until they are brown. For these it is better not to use the onion. They are particularly delicious served with fish.

In peppers.—To stuff green peppers, plunge the peppers into hot fat for two minutes, remove and peel off the thin outer coating, which will be found shrivelled. Cut from the bottom a thin slice and remove the inside. Make a mixture of one cupful of boiled rice, one finely chopped tomato, two tablespoonfuls of finely chopped mushrooms,, one tablespoonful of butter and one teaspoonful of onion juice for every six peppers. Fill this into the peppers, place them, open side down, in a pan and bake about twenty minutes.

HOMELY HINTS.

Iron rust has a way of appearing in a most mysterious fashion. Common salt wet in lemon juice helps drive it away. When the salt is dry brush it off and add more if the stain isn't quite gone.

Javelle water is another friend to cleanliness. Half a pint of it to a quart of clear water does wonders for fine white linen stained with tea, coffee or even wine. It's a last resort after using boiling water, but of course will take color and all out of tinted fabrics.

Let the article soak in it several hours before it goes to the wash, but be sure to rinse at least three times.

This magic water is made with two pounds of bicarbonite of soda and two quarts of hot water placed in a porcelain lined kettle until the soda is dissolved, then adding one-half pound chloride of lime and stirring well with a wooden stick. When it has settled and is nice and clear, strain through a cheesecloth and bottle tightly.

To clean a carpet: Fill a pail with tepid water and add four tablespoonfuls of ammonia. Dip the broom in this, beat out the water, and sweep about two yards. Dip the broom again and go over all the carpet in this manner, changing the water often.

Wrap silverware in blue tissue paper when it is to be laid away for a time.

There is nothing better than tansy leaves for keeping moths out of woolen goods.

Learn to laugh. A good laugh is better than medicine.

WHATEVER IS, IS BEST.

I know as my life grows older
And mine eyes have a clearer sight,
That under each rank of wrong, somewhere
There lies the root of right.
That each sorrow has its purpose
By the sorrowing unguessed,
And as sure as the sun brings morning
Whatever is, is best.

I know that each sinful action
As sure as the night brings shade,
Is somewhere, some time, punished,
Though the hour be long delayed.
I know that my soul is aided
Sometimes by the heart's unrest,
And to grow means oft to suffer,
But whatever is, is best.

I know there are no errors
In the great eternal plan;
That all things work together
For the final good of man.
And I know as my soul speeds onward
On its grand eternal quest,
I shall say, as I look back earthward,
"Whatever is, is best."

—Author Unknown.

Learn to hide your aches and pains under a pleasant smile. No one cares whether you have the earache, headache or rheumatism.—Herald and Presbyter.

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Los Angeles Markets.

Los Angeles, Cal., Aug. 27.

Dried fruits have advanced and the markets are very much firmer and more active than last week. Inquiries are more frequent and the buyers are in the field ready to pick up the unwary rancher.

Butter is unchanged, but the market is somewhat firmer than last week. Storage is coming out rapidly, also some eastern is being received.

Eggs likewise remain the same as last week, and the storage supply is being exhausted.

Potatoes are still weak, some fancy northern have brought as high as $2.

Hay and grain are beginning to come into market slowly and the quotations are acceptable to the producers. Good wheat and barley hay have advanced a dollar to two dollars since last week.

Barley is slightly lower.

Poultry has advanced slightly, but the market is stronger than ever. During the week buyers have been scouring the country to pick up all available supplies.

Butter.

B. of T. Creamery, per 2lb roll..		60
Dairy, do	.52½	55
Cooking	.20	22½

Cheese.

California and 3-lb hand....		16½
Cal. Downy or Anchor ...		15
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.27	.28
Fresh Eastern	.24	.25
Store, case count	.24	.25

Potatoes.

Fancy Northern		1.25
Potatoes, per ctl		.80
Sweet potatoes	2.50	3.00

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.75
Onions, yellow		1.00
Beets, per 100 lbs	.75	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chilles, green, per lb		.02½
Peas, green, per lb	.02½	.03
Lettuce, per sack	.25	
Radishes, doz. bunches	.15	

Fruits; Fresh.

White Figs, 20 lb box		.60
Cantaloupes, crate		.50
Water Melons, per doz	.25	.50
Strawberries, box, fancy	.04	.06
Lemons, per box	.75	2.00
Oranges, seedlings	.75	1.00
Limes, per 100	.90	1.25
Prunes, Hungarian, box 30 lbs..		1.00
Peaches, per box	.25	.60
Northern Apples, 40 lbs.	.50	.90
Local Apples, per box, 30 lbs..		.40

Fruits; Dried.

Apricots	.05	.07
Pears	.07	.08
Peaches, fair to good, sks	.04	.06
Prunes, choice, boxes	.03	.04
Plums, pitted, Kelsey	.05	.06

Poultry.

Spring chickens	.14	.16
Hens, No. 1 per lb	.13	.14
Ducks, per lb	.11	.12
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	4 00	5 00

Hay and Grain.

Wheat hay	8.50	12.00
Barley hay		10.00
Alfalfa, large bales	10.00	12.00
Corn, per ctl		1.50
Barley	.97½	1.00
Wheat	1.50	1.60
Oats	1.15	1.25
Corn, Oct. delivery		1.50

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Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.60
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75

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San Francisco Markets.

Dairy.

SAN FRANCISCO, August 27, 1903.—Butter prices have very slightly advanced in the past week, but the market is , if anything, rather firmer with a possibility of further advance, unless eastern shipments are attracted in sufficient quantity to bear the market. The quotations are about one-half higher than last week, and has been held level by the taking out of cold storage of a quantity of coast creamery, also of Eastern tub butter. Movement for cheaper grades has been slow.

The cheese market has been very firm at former quotations.

BUTTER—Per lb:

Creamery extras	.28	@28½
Creamery firsts,	.26	@27
Creamery seconds	.24	@25
Dairy extras	.24	@25
Dairy firsts	.21	@23
Store	.18	@20
Eastern Creamery	.23	@24

CHEESE—Per lb:

California Creamery, mild, new, extra	.14	@15
California Creamery, Mild new, choice	.13½	@14
Young America	.14	@15½
Eastern, New York Cream, Cheddars and flats, new	.14½	@16

Eggs and Poultry.

Eggs have increased very materially in select ranch, though the receipts have been very fair. Coice ranch command immediate sales at full quotations, though some from the interior have been unable to command full prices, because of the low quality from the hot weather.

EGGS—Per doz:

Ranch, selected large	.32	@32½
Ranch, good to choice	.28	@30
Store	.22	@27
Cold storage	.24	@27
Eastern	.18	@22

POULTRY—Old Roosters, per doz., $450@5; Young Roosters, $5@6.50; Fryers, $3.50@4; Broilers, large, $3@3.50; small, $2.25@2.50; Hens, $4@5; Ducks, per doz., old, $3@4; young, $3.50@4.50; Turkeys, nominal; Geese, per pair, $1.25@1.50; Goslings, $1.50@1.75; Pigeons per doz., young, $1.50@1.75; do, old, $1.50.

Fruits and Vegetables.

But slight change in the deciduuous fruit market. There have been some receipts of peaches, mostly of the better stock, which have been kept cleaned up from the market constantly. Free stone usually command top quotations; clings are more plentiful. Bartlett pears of best quality are scarce. Table grapes are in large quantity, with the market rather in the buyers' favor. Wine grapes are being quoted at $25 per ton. Cantaloupes and nutmegs are in over supply with weak markets.

The market is freely supplied with all summer vegetables. There is no improvement in the potato market, which is easy under slow demand.

APPLES, per bx, common to choice, 30@75c; fancy, 85c@$1.15; Crabapples, per bx, 25@65c.

PEACHES—Per bx, 25@75c; carriers, 50@75c; bulk, per ton, Freestones, $15@20; Clingstones, $17.50@25.

PEARS—Per bx, No. 1 Bartlett, 85c@$1; common, 30@75c; bulk, per ton, $20@35; other varieties, per box, 40@60c.

PLUMS AND PRUNES—Per bx or crate, 25@50c; bulk, per ton, $20@25, as to variety.

FIGS—Per bx, 50c@$1.25.

APRICOTS—Per box, nominal.

CANTALOUPES—Per crate, 40@85c.

NUTMEG MELONS—Per box, 15@35c.

WATERMELONS—Per 100, $7@20.

Grapes—Per small box, 35@60; crate, 50@90c; large bx, 65c@$1, as to variety.

NECTARINES—Per bx or crate, 65@85c.

QUINCES—Per bx, 65@75c.

BERRIES—Per chest; Strawberries, Longworth, nominal; large varieties, $4@6; Blackberries, $3@4; Raspberries, $9@12; Huckleberries, per lb., 6@8c.

CITRUS FRUITS—Per box, repacked: Oranges, Valencias, $2@3; St. Michaels, $2@3; Seedlings and Mediterranean Sweets, nominal; Lemons, 75c@$2.50; Grape Fruit, $1@2; Limes, $4@4.50.

VEGETABLES—Asparagus, per bx, nominal; Tomatoes, per box, river, 40@75c; do, bay, 75c@$1; Green Peppers, per box, Bell, 25@40c; Chile, 25@40c; String Beans, 1@2c; Wax Beans, 1@2c; Lima, 1½@2½c Green Peas, per lb., 3@4c; Egg Plant, per box, 35@50c; Summer Squash, per box, 30@40; Cucumbers, per box, 30@50c; Garlic, per lb, 2@3c; Green Corn, per sk, 75c@$1.50; crate, 75c@$1.75; Okra, per bx, 25@40c; Marrowfat Squash per ton, $20.

ONIONS—New Silverskins, per ctl., 50@65c.

POTATOES—Per ctl: River Burbanks, 75c @$1.25; Early Rose, 75c@1; Garnet Chile, $1@1.15; Salinas Burbanks, $1.50@1.75; Sweet Potatoes, per lb., 2@3c.

Dried Fruits, Nuts, Etc.

Business in the dried fruit market is showing a material increase. Many large local packers are in growing sections and picking up offerings in apricots and peaches. Prunes are still quiet.

Apples—Evaporated, new, 5@6c.

Apricots—Royal, fancy, new, 8¾@9½c; choice, 7¾@8¼c; Moorparks, choice, 9@11c.

Peaches, new, choice, 5@6½c; fancy, 7@7½c; peeled, in boxes, nominal.

Pears—4¾@9½c.

Plums—Pitted, 4½@6c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2¼@2½c, with ½@1c premium for larger sizes; new crop, 2⅝@3c.

Nectarines—White, 4@5½c

Figs—White, 5½@6c; Black, 5c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5⅝c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown, $1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16 7¾c; 12 oz., 6¼c; bulk, 7½c; choice, 16 oz., 7½c; 12 oz., 6c; bulk, 7¼c.

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—New Comb, per lb., White, 12@13c; Light Amber, 11@12c; Extracted Water White, 6@6½c; Light Amber, 5½@6c; Dark Amber, nominal.

BEESWAX—Per lb., 30c.

Live Stock.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin steers, 6½@7c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb; Hard grain-fed, weighing alive, 140 lbs and over, 5¾@6c; weighing under 130 lbs, 5¼@5½c; weighing 260 to 350 lbs, 5½c; rough heavy, 4½@5c.

Hay and Feed Stuffs.

HAY—Prices on new hay, per ton: Wheat, $10@15; Wheat and Oat, $10@13; Oat, $8.50@12.50; Barley, $8@11; Clover, $9@10; Alfalfa, $8.50@11.50; Stock, $8@9.

STRAW—Good to Choice, per bale, 50@65c.

FEED CORN MEAL—Choice grades, per ton, $33.50@34.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $23@24.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $24.50@25.50.

CRACKED CORN—Choice quality, per ton, $34@35.

Beans—Prices per ctl; Large whites, $2.90 @$3.10; small, do, $3.10@3.25; Pea, $3.40@3.50; Lima, $3.40@3.55; Red, $2.90; Pink, $3@3.10; Bayo, $3.40@3.65; Blackeyes, $2.75@3.10; Red Kidneys, nominal.

COCOANUT CAKE—Best quality, in lots of ten tons and upward, $20 per ton; 5 tons, $20.50; small quantities, $21. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net Cash, Family Extras, $4.60@4 85 per bbl.; Bakers' Extras, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—New Crop: No. 1 shipping, per ctl., $1.45; choice, $1.47½; White Milling, good to choice, $1.50@1.60.

BARLEY—New crop: Choice No. 1 Feed, $1.10@1.12½; shipping, $1.13¾@1.18¾; Brewing, No. 1, $1.18¾@1.22½; Chevalier, $1.35@1.50.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.55@1.60; small, do, $1.75 @1.80; white, $1.55@1.60.

RYE—Good to choice, per ctl: $1.20@1.25.

OATS—Feed, good to choice, White, $1.22½@$1.32½; White Milling, $1.32½@1.37½; Red, $1.15@1.32½; Black, $1.15@1.25 for feed and $1.30@1.40 for seed.

Hops.

The prices for new crop are 19@20c per lb., according to quality.

Eastern Markets.

New York General Market.

CHICAGO, August 26.—The weather here and abroad exerted much influence on the wheat market, and this, together with strong outside markets, created an urgent demand. There was an absence of heavy selling orders, and while profit taking on the moderate advances prevented any great break, the bullish influence increased throughout the session, final prices being about the best. September opened ⅛ to ½ higher at 80¼@80⅜ and advanced with a temporary break to 80⅛, until it touched 80¾, just before the close, which was a shade easier, at 80⅝@80¾, a gain of ⅝ to ⅞. Both the west and the Southwest were buyers in this market. Cash markets were all strong. Predictions of cold weather in the corn belt, following yesterday's heavy rains, caused free covering and resulted in a firmer tone in the corn pit. September was up ⅛ to ¼ at 50⅜, after selling between 50⅝@50¾ and 51. December closed ⅜ higher, at 51@51¼, ranging between

50% to 50% and 51¼. There was a rather strong market in oats, notwithstanding selling by the leading long holders, the strength being partly duue to the strong tone in wheat and partly to good shipping demand and decreasing receipts. September closed ¼ higher at 34⅝@34¾, after ranging between 34⅛@34¼ and 34¾.

Cash quotations were as follows: Flour was firm; No. 2 red wheat, 79½@81¾; No. 2 corn, 50¾; No. 2 yellow, 52; No. 2 oats, 32½; No. 3 white, 35@35½; No. 2 rye, 51¾@53; good feeding barley, 48; fair to choice malting, 51@52.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	24,100	15,900
Wheat, bushels	253,400	92,500
Corn, bushels	358,450	245,900
Oats, bushels	331,800	79,500
Rye, bushels	39,900	......
Barley, bushels	36,400	......

On the Produce Exchange today the butter market was steady; creameries, 14@19; dairies 13@17; cheese quiet, 9½@11¼; eggs, firm, 14@16.

Chicago Live Stock.

CHICAGO, August 26.—Cattle—Receipts, 27,000; market steady to 10c lower; good to prime steers, 5.25@6.00; poor to medium, 4.00@5.15; stockers and feeders, 2.50@4.30; cows, 1.50@4.40; heifers, 2.00@4.75; canners, 1.50@2.70; bulls, 1.50@4.40; calves, 3.00@7.00; Texas fed steers, 3.00@4.65; western steers, 3.25@4.65. Hogs—Receipts, today, 32,000, tomorrow, 25,000; 10@14c lower; mixed and butchers, 5.00@5.75; good to choice, heavy, 5.40@5.65; rough heavy, 4.90@5.45; light, 5.40@6.00; bulk of sales, 5.20@5.60. Sheep—Receipts, 30,000, sheep and lambs steady; good to choice wethers, 3.00@3.60; fair to choice mixed, 2.25@3.00; western sheep, 2.75@3.60; native lambs, 3.50@5.60; western lambs, 4.00@5.10.

California Dried Fruits.

NEW YORK, August 26.—The market for evaporated apples continues quiet and rather weak in the absence of important demand, with outside prices extreme;. Common, 4@5¼, prime, 5½@6; choice, 6¼@6½; fancy, 6¾@7½. Spot prunes steady to firm at unchanged prices, 4@7 for all grades. Apricots continue good demand and are firm, new, choice, 9¼@9½; old choice, 8¾; fancy, 12. Peaches quiet but steady; choice, 7@7½; extra choice, 7½@8.

NEW YORK GENERAL MARKET.

NEW YORK, August 26.—Wheat—spot firm, Options closed rather strong, at ⅛ net advance. May closed 88¾; September closed 87⅛; December closed 87⅜. Hops firm, State and Pacific coast, common to choice, 1902 crop, 19@25½; 1901 crop, 14@17; old, 10@12.

CITRUS MARKETS

ORANGE AND LEMON MARKET.

The shipments of oranges are nearing an end. The market is fairly steady with quick sales for prime fruit. Decay and low grades cause wide range of prices.

The receipts of lemons from Italy this month will be greater than for the same month last year:

Shipments of citrus fruits from Southern California for the season, from November 1, 1902, to date, are 21,669 carloads, of which number 2531 carloads are lemons.

AUCTION SALES.

NEW YORK, AUGUST 19.

T. C. Fr. Ex., Forget-me-not Valencias, $1.80. Oak Leaf, $1.25.
A. C. G. Fr. Ex., Red Shield Valencias, $2.40.

BOSTON, AUGUST 19.

Market weak.
C. C. U., Rialtò, Marguerite Sweets, $2.

PITTSBURG, AUGUST 19.

Market steady.
O. K. Fr. Ex., Owl Valencias, $2.30.
C. C. U., Monrovia, Lilac Valencias, 2.60.

PHILADELPHIA, AUGUST 19.

Market steady.
C. C. U., Covina, Sapphire Valencias, $3.
C. C. U., Whittier, Arbutus Valencias, 2.20.

CLEVELAND, AUGUST 19.

C. C. U., Covina, Topaz Valencias, $2.80.
A. H. Fr. Co., Palm Tree lemons, $1.30. Lemonade lemons, $.90, 25 per cent decay.

CINCINNATI, AUGUST 19.

Market declining.
O. K. Fr. Ex., Quail lemons, $1.30.
S. S. Fr. Ex., S. S. Valencias, $2.50. S. S. S. Valencias, $2.25.

NEW YORK, AUGUST 20.

C. C. U., Ontario, Choice Valencias, $2.20. Lighthouse Valencias, $1.90.
Riverside Fruit Ex., Blue Print Valencias, $2.90.

NEW YORK, AUGUST 21.

Riverside Fr. Ex., La Mesa Valencias, $2.85. Golden Rule, $2.65.
C. C. U., Covina, Excelsior Valencias, $2.10. Nasturtium Valencias, $1.65.

BOSTON, AUGUST 21.

Market steady.
Q. C. Fr. Ex., O. I. C. Valencias, $2.20. Royal lemons, $1.85. O. I. C., $1.70.

PHILADELPHIA, AUGUST 21.

C. C. U., Fullerton, Sapphire Valencias, $2.70. Amethyst Valencias, $2.25.

PITTSBURG, AUGUST 21.

Market steady.
Riverside Fr. Ex., Criterion Valencias, $2.45. Challenge, $2.40.

CLEVELAND, AUGUST 21.

Market weak.
C. C. U., Corona, Excelsior sweets, $1.10. Excelsior bloods, $1.45.

CINCINNATI, AUGUST 21.

Q. C. Fr. Ex., Leader Sweets, $1.45. Monogram, $1.15.

NEW YORK, AUGUST 24.

C C. U., Whittier, Bison Valencias, $1.35.
Riverside Fr. Ex., Uncle Sam seeds, $2. Fiesta, $1.85.

CINCINNATI, AUGUST 24.

Market weak.
S. S. Fr. Ex., S. S. S. Valencias, $1.85.
S. T. Fr. Ex., Don Q. Valencias, $2.10. Glass Bowl, $1.65.

PHILADELPHIA, AUGUST 24.

C. C. U., Whittier, Arbutus Valencias, $2.05.
O. K. Fr. Ex., Owl Valencias, $1.90.

CLEVELAND, AUGUST 24.

Market steady.
S. T. Fr. Ex., Alhambra Valencias, $2.80. Don Q. Valencias, $3.10.

BOSTON, AUGUST 24.

Market steady.
O. K. Fr. Ex., Quail Valencias, $2.75.

PITTSBURG, AUGUST 24.

Market weak.
D. M. Fr. Ex., Violet Valencias, $2.55. Primrose, $2.15.
O. K. Fr. Ex., Owl Valencias, $1.75. Quail lemons, $1.25.

NEW YORK, AUGUST 25.

A. C. G. Fr. Ex., Blue Shield, $3.70. Red Shield, $2.30.
C. C. U., Fillmore, Flamingo Valencias, $2.30. Sunrise, $2.

BOSTON, AUGUST 25.

Market weak.
Riverside Fr. Ex., Blue Globe Mikes, $3.20. Red Globe, $2.20. Blue Globe Valencias, $4.15.
Total shipments to date, 21,662. Last year, same date, 16,950.

NOTES.

A movement is on foot among some of the leading Republicans to ward off the call for an extra session of Congress.

The dairymen supplying the Los Angeles milk trade have advanced the price so that now quarts are selling at $2.50 per month.

The Highland Park Improvement Association has broken away from the usual loose methods of such associations and have organized a stock company, whose business it is to look after the affairs of the community, especially as to the improvement of streets, trees, etc.

The heat of last week did considerable damage to the bean crop of Orange county.

San Jacinto Irrigation Company has let a contract for 16 miles of cement ditch. It will cost about $100,000.

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The following named children have been received in the Boys' and Girls' Aid Society Home since April 1st.

Half orphans: William Higgins, male, aged 11 years, light hair, blue eyes; Harry Higgins, male, aged 10 years, light hair, blue eyes; Rowland Higgins, male, aged 8 years, light hair, blue eyes; Harry Higgins, male, aged 6 years, light hair, blue eyes; Ruby Higgins, female, aged 4 years, light hair, blue eyes; Peppa Bailey, female, aged 3 years, black eyes, dark hair; Roberto Bailey, male, aged 4 years, dark hair, black eyes; Gertrude Chapman, female, aged 6 years, dark hair, black eyes; Chester Garwood, male, aged 9 years, light hair, blue eyes; George Garwood, male, aged 11 years, light hair, blue eyes.

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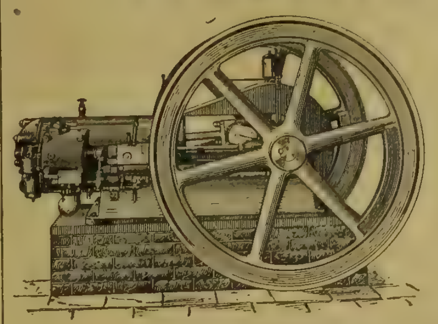

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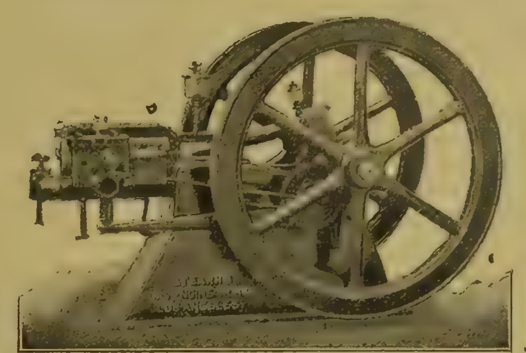

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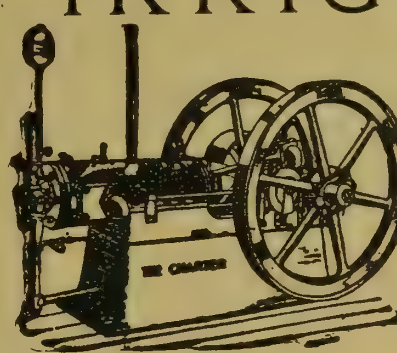

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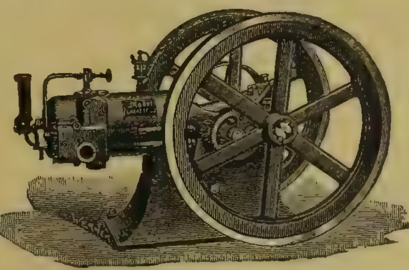

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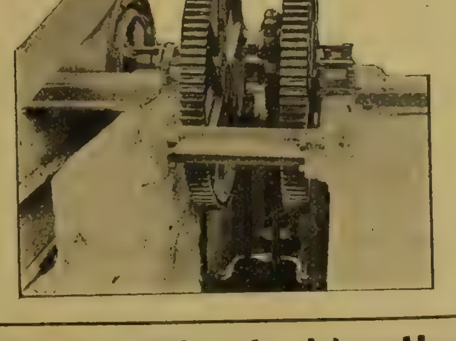

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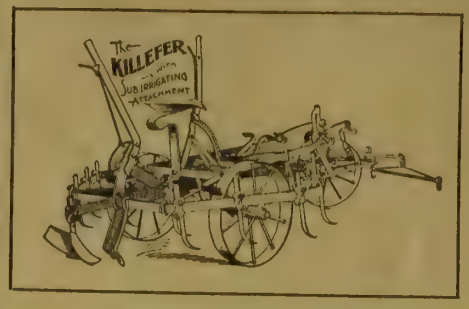

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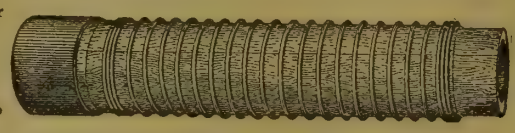

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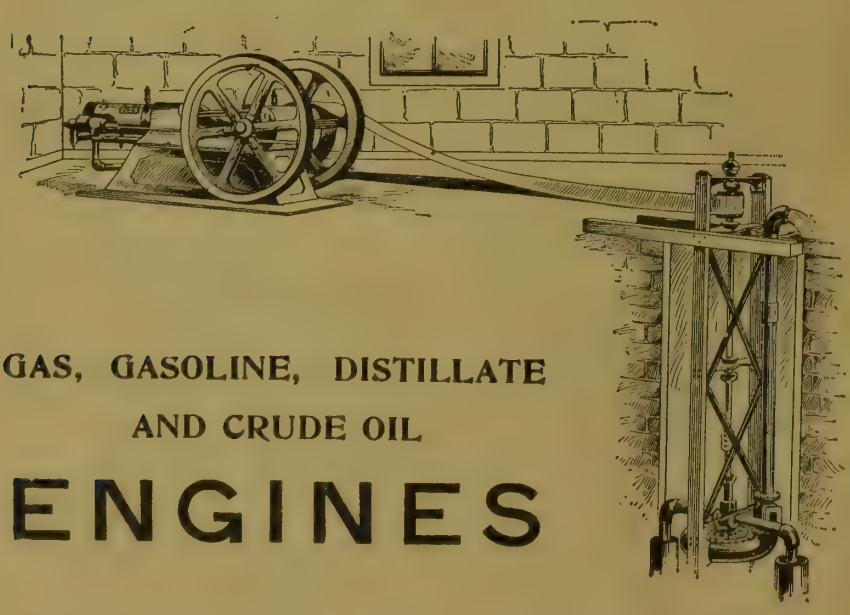

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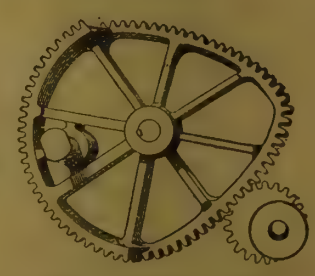

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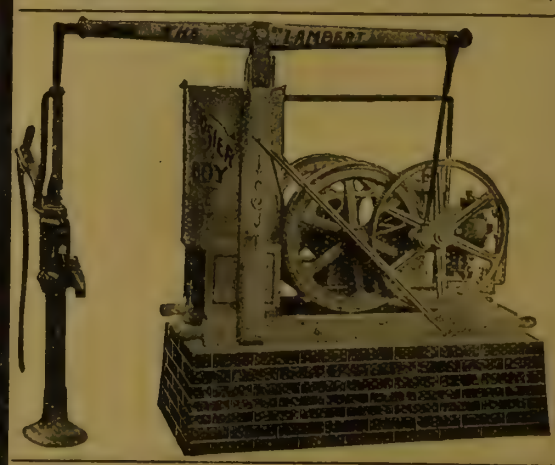

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Vol. XXI—No. 10 LOS ANGELES, CAL., FRIDAY, SEPTEMBER 4, 1903 Subscription $1 a Year

. . . Raisin Curing in California . . .

BY J. W. MILLS, POMONA

Last year the raisin crop of California filled 5,000 cars of ten tons each. That was next to the largest crop ever grown in the state and amounts to 100,000,000 pounds of cured raisins. In 1894 the crop amounted to 103,000,000 pounds.

The diseases common to grapes have been steadily increasing in vineyards which are not resistant to them or are so situated as not relieved as in the case of the raise of alkali where injudicious irrigation has been carried on with insufficient drainage. Under these circumstances, it is not probable that there will be much increase if any in the crop of the coming season.

Some fifty years ago, the raisin industry was in the beginning in California, the muscat, muscatel, malaga and Faher Szagos being planted in various sections of the state. The latter variety soon went out as a raisin grape but still was profitable as a dried grape. It is probably the best grape for the purpose, being very tender and sweet and an enormous producer. Zante currants were the first seedless grapes planted in the north, but owing to lack of knowledge in training them, they never became very popular. Later on, Seedless Sultana was introduced, and still later Sultanina or Thompson's Seedless was found to be much better for producing seedless raisins. This grape is now being planted in great quantities in the Sacramento Valley. It is also used quite extensively as a shipping grape, both in northern and Southern California. Malaga grapes have not retained their popularity with the raisin grower and muscat and muscatel have almost entirely taken their place.

The harvest begins in August in the early districts and in some of the Southern California raisin sections does not begin until a month later.

In vineyards where these grapes mature perfect bunches, London Layers are produced. Each picker carries two trays, one for imperfect bunches and one for perfect bunches. The trays containing grapes for London Layers are placed in one row and the trays containing the second grade and scraps are placed in another row. A man who has charge of a gang of pickers follows up the rows that have been gone over and examines the work and picks what stray bunches might be overlooked. The bunches which go to make Layers are so arranged on trays that they will present the best possible appearance when dried, for after they are cured, they cannot be rearranged without breaking the stems and thus spoiling the bunches, therefore when the grapes are placed on the trays by the pickers they are not allowed to overlap one another. With the second grade bunches, this is not important as they are afterward stemmed. The fullest ripeness is essential in making good raisins and this is determined by the color in picking. Those grapes which have a light amber color are the sweetest, though the most perfect bunches are more often of a decidedly greenish color as they are generally well shaped.

There is always a second crop of small bunches that are never picked with the main crop, as they are green at that time. They are occasionally used for raisins, but are generally sold to wineries. They ripen too late to dry, and are sometimes spoiled by the rains before they are fit for making wine.

After the grapes on the drying trays are well shriveled on the upper side and of a brownish color, they are turned. This is done by placing an empty tray on them and clasping the two so that the grapes are held firmly between the two. This is done either by quickly adjustable clamps or by the hands. It takes two men to turn the trays, one on each side. If the arms are crossed and each corner of the trays held tightly, turning can be done very rapidly by simply uncrossing the arms. The tray which formerly held the grapes is carried and placed on top of the next tray and so on through the vineyard.

The grapes dry very rapidly after being turned and care must be exercised to prevent them becoming too dry. When the berries will roll between the fingers and jelly comes out at the stem end, they should be stacked. This is done in the morning as the stems are tougher than later in the day and the bunches are not so liable to become injured. The grapes are then taken to sheds where they are placed in sweat boxes, three grades being made The sweat boxes are little larger than two by three and about eight inches deep. The bunches that are to become layers, are placed carefully in the boxes, heavy manila paper placed on the bottom between each layer of grapes. This helps to retain and evenly distribute the moisture and keeps the stems from becoming tangled. The sweat boxes are then piled up squarely one above the other

(Continued on Page 161.)

Emperor Table Grapes as Grown in Fresno County

Some of Fresno's Large Seeding and Packing Plants.

Fresno has the largest and most complete works in the world for this work. The value of the raisins passing through these houses amount to over $3,000,000 annually.

Packing Seeded Raisins.

The raisin is steamed, pressed between rubber rollers, seeds removed by machine, passed to packers who place in one pound cartons. These are next placed in cases containing 36 pounds.

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 4, 1903

Circulation this issue 9,000

CALIFORNIA JERSEY BREEDERS' ASSOCIATION.

A meeting of the above organization will be held in the Senate Chamber, in Sacramento, Friday, September 10, at 10 a. m. A full attendance of the members is requested and all who are interested in dairying are invited to attend. By order of,

PETER J. SHIELDS, President.
N. A. CHISHOLM, Secretary.

Many exchanges are giving some little attention to the Zebrula which is a cross between the horse and the zebra, and is said to be a fine draft animal much used in South Africa. Experiments for breeding this animal have been carried on for some time in that section and have developed stock which it is claimed will supercede the American mule. We hardly think this will be accomplished in our life time however, but it may be a case where the mule has a kick coming.

STATE FAIR.

From the report of the opening of the State Fair it appears that a most successful exhibit of the resources of this state is being held at Sacramento. The race track is still one of the main features, however, it is claimed that it is a more creditable exhibit along the line of manufactures and agricultural productions than for many years. The display of stock from various parts of the state and from other states is said to be most creditable and instructive. It is surely to be hoped that this season's fair will be a step in the direction of giving to our state an exhibiton which will not only be a credit to it in the eyes of Eastern visitors who may happen to attend, but that it will also prove an inspiration to the producers to make more strenuous efforts than ever toward production, which will prove a prize winner, not only as to blue ribbons, but to that which is more profitable, dollars and cents.

May this fair prove an educator along this line.

PULL TOGETHER.

Wishing to have a statement from those who are seceding from the Southern California Fruit Exchange and aiding, we believe, in discrediting co-operation as exemplified in the greatest co-operative marketing movement of this country, the Cultivator wrote to Secretary Van Luven of the San Bernardino Fruit Exchange for a statement from those who are breaking away from the Exchange. We asked for a short statement, knowing that there must be some reason for this break in the ranks. All questions have two sides and the most intelligent decision as to the right or wrong may be secured by considering both sides. Mr. Van Luven writes: "I will state that the contract between this exchange and the Southern California Fruit Exchange provides that we have the privilege of withdrawing during the first fifteen days in September in any year, and we are therefore only exercising our privileges. As to the reason for such action, a statement will be made at the proper time."

This is a little more concise than we anticipated but doubtless the proper time has not yet arrived for the general public to be informed or Mr. Van Luven would have given us the reason for the action that this exchange has taken. Meantime we cannot help but regret very much that in the face of the vast amount of fruit which must be handled within the next year that any attempt at breaking down the plans of marketing which have so successfully handled oranges for several years, should have been sprung at this time.

Scipio Craig in a recent issue of the Redlands Citrograph thus reasonably expressed himself regarding giving the fruit agency a fair trial at the work which it has undertaken:

"If thirty to thirty-five thousand cars of oranges are to go to market in competition with one another, the growers who own large acreage have much concern for the future. That a reasonable test of the California Agency plan should be given is only common sense. A reasonable test means that ninety per cent. of the growers should join. The large operators and association managers who have thus come together had to forfeit many private advantages to effect general good and to participate in it.

"If the agency plan fails, what can succeed?"

Perhaps the San Bernardino county growers expect some advantage to compensate for their jeopardizing this great movement, but they are certainly taking great risks, not only as to their own fruit, but as to the entire citrus industry of California.

The cattle men of the Middle West are taking a great step toward co-operation. A dispatch of September 2d stated that some of the representative cattle men, on that date, met in Kansas City and have agreed upon articles of incorporation for a packing company. So far as announced the idea seems to be to form a large stock company, erect a packing house merely for the purpose of establishing competition with the meat trust. The cattle of the members will still be offered in the open market, and will be sold to the highest bidder. Their own packing house will be used as a balance wheel to maintain market and protect themselves when it happens to be the will of the meat trust to put on a squeeze. The talk is that the new concern will have a capital of $500,000, and if this plant succeeds another will be established at Fort Worth.

It is gratifying to note in Mr. Isaac's correspondence in this paper that owing to the shorter time in transportation for California fresh fruits for this year that far more satisfactory prices have been secured to deciduous green fruit shippers of Northern and Central California. It has been one of the contentions of the fruit shippers in the past that lower freight rates, while this would help in the matter of profit, are not so much to be desired as quicker transportation of more perishable fruits.

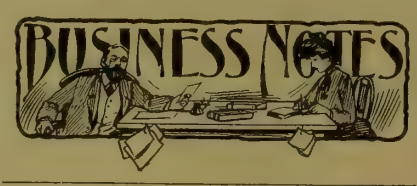
American farmers in 1890 owned $494,000,000 worth of implements, and machinery. In 1900 they owned $761,000,000. Their products in 1890 were worth $2,460,000,000. In 1900 their value was $4,739,000,000.

WILL CO-OPERATE.

A dispatch from Fresno dated September 1, says: "The California Raisin Growers' Association is a go. This afternoon the directors counted up their contracts and it was found that 90.99 per cent of the acreage was signed. This exceeded the expectation of the most sanguine, and the association will conduct business and maintain prices for the coming year."

This result is such that all raisin growers and all fruit growers of this state should take much satisfaction in. It has been one of the hardest fights the association has ever had, and has been on the verge of being thrown up many times within the last few months, in the struggle to secure the requisite number of signatures to the contract. The first effort was to secure signatures to a five-year contract, this failed, which after a meeting of all the growers that could be got together in Fresno in June, was changed to a one year contract, although at that time a strenuous effort was made to hold it up to at least three years. In the final struggle to secure signatures to this one-year contract, there seemed to be almost as much opposition as there was to the original five-year contract. A few loyal public-spirited growers have at all times been ready to sign up any contract which meant the co-operative marketing of this great quantity of fruit, but a vast number were indifferent until almost at the last moment, acting apparently upon the plan, that if the association could be a go, without their being bound to the contract, they would compel it to do so. This spirit of selfishness is one of the most discouraging features of all co-operative movements, but until human nature is made over it will have to be contended with.

Congratulations are extended to the raisin growers and may they have one of the most successful seasons ever vouchsafed to those connected with that industry.



A RELIABLE MACHINE.

The Bean Spray Pump Company of San Jose have shipped a full car of their old reliable Bean pump to their agent in Southern California. W. F. Budlong of Los Angeles is their Southern California agent, and he is busy in getting these pumps into the orchards where they are now doing yeoman's service in the control of the scale pest. The Bean is one of the oldest, if not the oldest, pumps, which have been used in destroying the scale pest of California fruit trees.

Jno. Bean, the inventor, is still residing in Los Gatos, where he constantly plans for the betterment of this machine, and this planning results in the application of many new features which are constantly retaining this machine before the orchardists and proving it to be a favorite because of its effective work, the substantial manner with which it is put up, and its durability.

Their new power machine has proved itself admirably adapted to the appliance of distillate spray, and it is so constructed that Bordeau and other corroding mixtures may be applied to this machine without injury to it. The catalogue issued by this firm is full of information for every one who contemplates spraying or the purchase of a spraying machine, and will be sent by the company to any one applying for it.

At the recent trial of spraying machines at Riverside the Bean secured a score of 27.3 out of a possible 45. This was the highest score made.

* * *

IMPERIAL.

The Imperial Investment Company are still doing things in a large way out on the "desert." The "desert" by the way is blossoming in such a way that we believe little more attention is due to it than it has been receiving and the Cultivator hopes a little later to give some items and possibly some illustrations of the blossoming of that particular section.

A CHEAP AND EFFECTIVE APPLIANCE.

"The propless tree prop" was the catchy phrase which the Hoyt Tree Support Company used to refer to their support, and it really fits this appliance which has proved most effective and most economical for many orhardists all over the state. The prop is built on the line of one limb supporting another, that is, the pressure downward of the great weight of the fruit on one side of the tree helps to hold up and support the fruit on the other side of the tree. The prop is so made that it is easily applied to deciduous trees at time of pruning. Then when the leaves and the fruit weigh down the tree, the support is already in place.

R. M. Teague, the San Dimas nurseryman, has taken the selling of this support for Southern California, and it goes without saying that he will place a vast number of them in Southern California. A. A. Hoyt who is in charge of the manufacturing plant located at Watsonville, will still control the business of the northern end of the state, and either of these gentlemen will send samples of this admirable little appliance, that every one not acquainted with its merits, may see exactly how it is applied.

The Hoyt Company began manufacturing this prop only a little over two years ago and has kept on increasing its plant until now it has a large factory, capable of putting out 20,000 of these supports daily.

Manager O. J. Weber of the Los Angeles house of G. G. Wickson & Co., is at home from a few weeks vacation and is preparing to push the interests of that reliable house in Southern California. Just at present he is making a particular pull on the improved feed and ensilage cutter. The spreading of the gospel of ensilage as being the cheapest and best feed for dairy stock has resulted in a materially increased demand for the ensilage cutter. Mr. Weber says he has it nearly to perfection in the one which he is now offering to the farmers. See Weber about it at 123 N. Main street, Los Angeles. Of course creamery separators and all creamery supplies are always expected to be found in this large house, and that expectation never meets disappointment.

* * *

A FINE OUTFIT.

S. J. Smith of Los Angeles is busy putting out one of the most reliable power spraying outfits in Southern California. It has been used and found to be entirely reliable by many farmers and orchardists. It is not only reliable, but easy of manipulation, little repairing or overhauling is needed. Of course he uses the Lambert distillate engine for power, and it has a double acting pump, especially designed for this rig. The tank is fitted with power agitator which insure perfect mixture of the solution.

* * *

WORTH THE ASKING.

One of the most complete catalogues which we have seen is that of the Fresno Agriculture Works. It has in it descriptions and illustrations of nearly every article which the ordinary farmer or orchardist would ever have occasion to use. We note on page 29 an illustration of one of the best appliances which we have seen for plowing beneath the spreading limbs of trees such as a low headed fig tree. We have not space to specify the various appliances which are there mentioned, but the catalogue is of such value that every farmer will find in it much valuable reading. The works at Fresno employ a great number of mechanics, and it is indeed a busy spot in that busy city.

* * *

S. B. Wright of Santa Rosa again calls attention of our readers to his prize winning Berkshires. Mr. Wright is carrying some fine stock as breeders from many sections of the state, as those who have purchased some of his fine blood can testify.

The Must Hatch Incubator Company announces this week that, owing to its moving into large new quarters and being so busy keeping up with orders of the past season, they will be unable to make an exhibit at the State Fair. Notwithstanding that, the Company is yet turning out incubators which win laurels when it comes to results in actual service.

GENERAL NOTES.

The late continued heavy rains of France have done damage to the amount of $60,000,000.

The state of Illinois is doing royal work in bringing to justice the principals in the recent Danville riots.

Late cold rains are injuring the wheat harvest and the growing corn crop in Minnesota and the Dakotas.

The friars ask $12,000,000 for their lands in the Philippines, while the insular government offers $6,000,000.

The output of the factories of the United States last year was $1,950,000,000 over that of the previous year.

The 40th annual meeting of the American Veterinary Association will be held at Ottawa, Can., Sept. 1 to 4.

The cruiser Pennsylvania was launched last week and will be one of the finest fighting machines in the American navy.

A girl, aged seven, died recently at Creston, Ind. An autopsy developed the fact that the child had swallowed peas whole. They had sprouted and were growing in her stomach.

The increase in the area if irrigated lands in Arizona, during the last ten years was 119,575 acres. This land was worthless without water. Its present value is estimated at $3,587,250.

The statement has been made by the officers of the Burlington Route that Nebraska produced in 1902 60,216,640 bushels of wheat. This year the output will be 25 per cent more.

It is now proposed to form a farmers' co-operative association and fix a price on everything the farm produces. On Sept. 8th the National Farmers' Convention meets in Chicago when the matter will be discussed.

Secretary Wilson has returned from his tour through the Middle states. He was pleased to find that marcaroni wheat is being grown from Canada to Texas, and is proving to be a profitable crop. Five mills are now grinding macaroni.

It was stated at the G. A. R. encampment last week by Pension Commissioner Ware that Uncle Sam now pays out annually $142,000,000 in pensions. There are now on the pension rolls 9029 men and 3662 widows of the Spanish-American war.

The Burley Tobacco Growers' Association of Kentucky, have held large mass meetings to devise means for breaking the tobacco trust. A half million dollars will be raised for that purpose. The growers contend that the trust prevents them from making a profit on their industry.

THE FLORIDA CITRUS CROP.

From the Florida Times-Union we learn that the coming orange crop is estimated at not to exceed 1,250,000 boxes. The following resume of last season's crop is taken from the same paper:

For some while yet commercial reports will mention only oranges, including under that heading both pomelos, (grapefruit) and lemons. Limes are reckoned separately.

The yield of 1902-03 should have largely exceeded the preceding one, but did not. The protracted drought in the spring of 1902 caused an unusually heavy drop, and this was accompanied by an invasion of red spider, the most damaging for years, and which therefore found many of the growers uprepared, waiting in the daily expectations of relief, so that the ravages of this pernicious pest were little combated.

The railroad handlings were close around 830,000 boxes, add to this the steamship cargoes loaded out from Jacksonville and Tampa (to Mobile) and the home consumption, we find 980,000 boxes, oranges, pomelos and lemons; worth, all around, $1.45 a box at the grower's station. A total of $1,321,000. Limes 5300 boxes, valued at $1.65 a box, making $8745.

Florida oranges this year more nearly reclaimed their high standing in the markets than they had ever done before since 1895. In quality and price, to the close of their season in Northern markets—they were substantially done by March 31—they ranked easily first; and this was more especially true of the pomelos, which outclassed all others by 25 to 150 per cent.

Coast News and Notes

By R. A. Dague, 1130 Eddy St., San Francisco

Planting of prune trees is now all the rage in Oregon.

A carload of Malaga grapes last week sold in New York for $2200.

Eighteen million eggs were shipped from Petaulma during the past four months.

Texas fever is reported as the cause of death of two hundred head of cattle in Siskiyou county.

M. L. McDonald & Co., fruit packers of Santa Rosa will have an output of about 100 carloads of fruit chiefly prunes.

Real estate is moving in the vicinity of Cloverdale. The last important sale was that of the Dingee ranch of 10,000 acres.

Dr. L. C. Kinnon, of Chico, county veterinarian, has quarantined several establishments handling horses and mules on account of glanders.

It is said that the pear orchards in Madera county show an improvement over last year. They seem to be recovering from the blight.

The tunnel in the Culver-Bair quicksilver mine of Sonoma county is 900 feet in length. Several new bodies of ore have recently been struck.

Secretary Filcher of the State Board of Trade, says that while the aggregate grain crop is less than last year, farmers will get better prices.

J. T. Green, has recently visited 134 orchards in Santa Clara county. He says this year's crop of prunes will not average more than sixty per cent. of last year's crop.

Professor W. T. Clarke says that the codling moth problem has been solved in the Pajaro valley. The apples of that section are almost entirely clear of the pest.

Finding that owners will not contract their hops at 20 cents, Eastern dealers are now offering 22 cents. The hop crop in Oregon is poor, hence California can demand good prices.

In the hop fields this year in Sonoma county it was found that a spray composed of whale oil and quassia was the most effective in destroying the hop pest.

California recently asked for 15,000 feet more of space at the St. Louis Exhibition. That will give the state 55,000 feet. The California building will be on high ground near the center of the grounds.

George Madeira is gathering California minerals for exhibition at St. Louis. He requests all having some speciments to send them to Mining Department, St. Louis World's Fair, 29 Market street, San Francisco. The railroads will transport the mineral free.

Lands are beginning to change hands in Central California. Eastern capital is pouring in. The Grogan cattle ranch of San Benito county recently changed hands. It consists of 9000 acres and sold for $137,000. It will be used by the new owner for breeding fancy stock.

There is an erroneous impression abroad as to the grape crop. It is claimed it will fall behind that of last year. While the crop is good in spots, yet as a whole it is short. The trouble is that phylloxera is spreading and there is an increasing number of diseased vines.

Col. Philo Hersey was sent to Europe in the interest of the Santa Clara County Fruit Exchange. He has returned. He says the foreign crop is not as large as estimated. No grower should supply any packer with prunes that the latter could sell for less than a three-cent base, without loss. Not over one-third of the California product should be sold even at that price.

A Grand Army camp fire was held in East Lake Park, Los Angeles, last week, made up largely of returning veterans from San Francisco. San Francisco gave the veterans a royal welcome and every other community through which they passed threw open the doors with genuine California hospitality. There are some yet in California, but many are drifting eastward.

The tobacco crop near Cloverdale is turning out well.

Eleven thousand dollars are being expended in the erection of a pickle factory at Mt. Eden.

The losses of the fruit growers in the Watsonville district from codling moth last year were a half million dollars.

It is estimated that the tonnage of beets to pass through the Oxnard and Chino sugar factories will be 300,000 tons.

The steamship lines between Tacoma and Liverpool have secured contracts for transporting 80,000 tons of wheat.

The Sonoma county grangers had an all-day picnic at Santa Rosa one day last week. Several new members were initiated.

Famine prices for hay are predicted at Tacoma this winter. Stablemen are now paying $14 per ton for timothy; alfalfa, $10; and wheat, $11 to $13. Even straw is bringing $4 per ton.

The Ablett family in Santa Barbara county, claim they have found a perfectly safe cure for rattlesnake bites. It is the application of carbolic acid to the wound. They have often tested it and always successfully.

There are two peach orchards side by side in San Joaquin county. One has been sprayed, the other [illegible] sprayed trees have produced 4000 boxes of the finest peaches ever seen. The fruit on the other trees are small and illy- flavored.

Congressman Bell who proposed at the St. Helena convention to have laws enacted to insure the purity of wine is astonished to find much opposition to some features of his proposed law. Quite a large number of vinters are opposing it.

The Southern Pacific Company have contracted for the construction of a tunnel through the crest of the Sierra Nevada mountains and the building of 45 miles of track. This will eliminate forty miles of snow sheds and reduce the maximum grade sixty-five feet.

The Fresno Melon Association has been accused of "freezing out" small growers. The president in reply denies the charge and says they cannot market more than half the crop and ship no melons weighing less than sixteen pounds. Those under that weight must of necessity rot in the fields.

Again we inquire, what is the matter that California does not produce more poultry and eggs? The total output of chickens and eggs in the United States is $290,000,000 a year. We send out of this state annually for eggs and fowls about $2,500,000 and yet we have a climate peculiarly adapted for the business. The average farmer should raise more chickens of the best strain.

A mass meeting of the grape growers took place at Stockton the 23rd ult. Charles A. Wetmore, president of the National Wine-makers Association, was the leading spirit. Resolutions were passed against the law proposed by the late St. Helena convention. Mr. Wetmore claims that the St. Helena movement would destroy the small raisers of grapes.

The State Board of Equalization has summoned the assessors of every county in California, except Los Angeles, to appear and show cause why their assessment rolls should not be raised, The investigation is now progressing. The fact has been developed that the grain farmers are not so prosperous as the fruit growers. In fact the grain farmers are not so prosperous as they were ten years ago.

Nesley Young, of Sonoma county, has invented a pruning machine. It is operated by a gasoline engine with a tank holding compressed air. The engine compresses the air and it is released by the operator and this force operates the pruning knives. These can be attached to a hose of any length and four rows of trees can be pruned at one time. High limbs are easily reached and pruned. It is said to be a decided success.

Watermelon growers of Fresno have organized a co-operative association.

The State University opened last week with an enrollment greater than ever.

Riverside shipments of oranges for this year aggregate 4,605; of lemons 335 cars.

The wine grape growers about Anaheim have fixed prices on grapes at $16 to $22 per ton.

It is now estimated that the damage to the bean crop at Orange county by the recent hot spell was 20 per cent.

Santa Barbara has called an election for September 28th to vote upon the question of extending the city limits.

Imperial is to have a new creamery which is promised to be ready by October fourth. H. F. Fuller is to be proprietor.

The people of San Bernardino were treated to a genuine back east tornado last week, which is decidedly new for California.

The Sacramento Valley Development Association is making a special effort to make a good exhibition at the World's Fair next year.

The planting of 300,000 red gums near Fullerton, has been contracted for, Richman and Mills, the nurserymen of that place having the contract.

U. S. Marshall has placed under arrest four well known young men of San Bernardino who are charged by the forest ranger with violation of the government regulation rule in failure to extinguish camp fires in the forest reserve.

Southern California is again enjoying normal weather after nearly a week of the hottest spell in its history. In some sections the temperature reached 115 degrees for two or three days, and in very many sections was over one hundred.

The Pomona and Claremont Farmers' Club will hold their annual joint meeting at the U. S. Experiment Station near Pomona on September 14th. The Covina, Azusa, Glendora, San Dimas, Uplands, Ontario, Cucamonga and Chino clubs will be invited to join this meeting.

The work of Assessor Ward of Los Angeles county in placing the valuation of that county far higher than heretofore has caused the State Board of Equalization to consider the raising of other counties in the same proportion. This has caused a tempest in a teapot, and many of the other counties are sending in protests, supported by strong committees.

RADIUM.

During recent years there has been discovered many startling manifestations of nature. The wireless telegraphy is one of the wonderful inventions and yet greater than all these discoveries and inventions is the latest—radium—recently given to the world by Mrs. Sklodowska-Currie and her husband Prof. Pierre Currie.

This new element found in the residue of pitch blend, is confounding scientists with its startling phenomena. This metal is radio-active, is more powerful than the X-rays, it having the power of penetrating opaque objects as readily as the sun does crystal. It is so luminous that print can be read by its light, and more marvelous, it has the power of imparting its own luminosity to bodies ordinarily inactive. It transforms oxygen into ozone, yellow phosphorus is converted into red phosphorus. Radium destroys the germinating power of seeds, is capable of killing bacteria and is being used in skin diseases. Diamonds are rendered phosphofescent by it and they can readily be detected from paste. Its strangest power is that of retaining a temperature higher than that of the surrounding atmosphere. Placed on a cake of ice it will burn and glow and melt the ice and continue doing so with no apparent loss is weight or power. Imagine a red hot piece of iron giving off heat endlessly without having its heat renewed. To produce radium the several elements contained in pitchblende are removed and in the residue is found a tiny speck of this radio-active element. This speck is so costly to produce that a pound of it in its pure state would cost nearly three million dollars. To produce a pound of radium two thousand, two hundred tons of pitch-blende are required.

Irrigation Queries??

Owing to some question as to the benefits of present irrigation laws, and the Irrigation Congress soon to be held at Ogden, the Cultivator submitted a few questions to C. B. Boothe, chairman of the Executive Council of the National Irrigation Association.

Owing to the fact that we had to seriously restrict Mr. Boothe in space, his answers do not enter into full detail, yet give an outline which is most instructive.

The questions submitted to Mr. Boothe are:

Wherein will there be benefit to the country from the meeting of the National Irrigation Congress?

What is the attitude of the Eastern farmer toward the reclamation of the arid West?

What is the attitude of the manufacturer and the merchant toward the reclamation of the arid West?

Will there be an effort to increase the $10,000,000 appropriation?

Is that an appropriation, or is it more in the nature of a loan, and will it ever be returned to the National treasury?

Will present holders of land within the district benefited get the advantage of the Government's expenditure, without any return to the Government?

Some of the Canals and Irrigation Systems of San Joaquin County.

May land grabbers anticipate future improvements and secure advantage and the Government's loss?

To these Mr. Boothe answers.

Editor Cultivator:—Replying to your inquiries concerning national irrigation, which seems to have been suggested at this time by the coming of the National Irrigation Congress, to be held at Ogden September 15th to 18th, your first inquiry as to the probable benefit to the country which will result from this Congress, is somewhat of a poser; I am not a prophet, nor the son of a prophet, and therefore cannot foresee what will be done or who will be present, but judging from the experience of past congresses, there will be gathered together a large body of earnest men, interested in the development of the resources and business interests of the country, both East and West, which they believe will be hastened very materially by a just application of the provisions of the national irrigation act, and by other causes, growing out of it. To attempt to reply to all your questions, seriatum, would pretty well cover the whole irrigation subject, and would require a large space, if I were able to do so to your satisfaction.

I may, however, give you a brief outline, in a general way, the information desired; invitations have been sent out to governors, mayors, commercial organizations, and representatives from the government bureaus, whose affairs are connected with irrigation matters, to appoint delegates to the coming congress, and the committee have been advised already of the probable attendance of a large number of prominent men. Papers to be read, addresses to be made, and the discussions will cover a wide field, although the intent of the managers has been to have all matters brought before congress, germane to the main proposition. There will undoubtedly be a forcibly expressed diversity of opinion, and there will be representatives of interests which are opposed to the public lands of the Nation being held for the homeseeker and actual settler; in fact, the success or failure of national irrigation in the eyes of the people of the country, mainly hinges upon this issue, whether the remainder of the public domain shall be turned over to the speculator and land monopolist, or reserved for the actual settlers, who properly claim it as a birthright, and desire to build upon it their homes and support their families. This principle is so vital to the future development of the West, which involves the prosperity of both the East and West, that no agriculturist, horticulturist, storekeeper, manufacturer or capitalist can afford to be insensible to it. I believe that all of these interests generally, when the true facts are made plain, uniformly uphold the policy of the National Irrigation Association.

Your reference to the attitude of the Eastern farmer, towards the reclamation of the arid West, reminds me that some of the Eastern agricultural papers have assumed that the development of the West means a competition which would be unfavorable to their interests; inasmuch as the irrigated lands of the West have not, so far, and will not likely, raise crops for shipment to the East in competition with the Eastern farmer, but on the contrary, are large consumers of the manufactured products of the East, which create valuable home markets for the Eastern farmer, it is difficult to see what reasonable argument can be produced in favor of their contention. From the diverse interests in the West, the main objectors to the policy of the National Irrigation Association, being those who are generally described as cattle men who desire to have and control large areas of land for grazing purposes, statements intended to be prejudicial to the cause of National Irrigation appear in the public press, both East and West. To what extent this education is influencing public opinion is difficult to state. Land grabbers and others who are trying to secure some advantage under existing laws, seem to be co-operating with the cattle men to prevent what is now recognized as important legislation, necessary to protect the interests of the people, viz., the repeal of the Desert Land Act, the commutation clause of the Homestead Act, and Timber and Stone Act.

A discussion of these acts will be a very important feature of the coming congress. With the repeal of these acts it is believed that the land grabber will be unable to take advantage of the National Irrigation Act, except in the same manner as that of any actual settler. The appropriation made under the national irrigation act is in the nature of a loan without interest, and under its provision all the money expended will be added pro rata, to the price of the land, and returned to the government in ten annual payments.

An area of about twenty acres is to be devoted to an exhibit of taking water from canals, rivers, and laterals. And new methods of irrigation will be shown, together with data from a practical demonstration of losses incurred in transportation of water and various other experiments in matters connected with irrigation.

To return to your first question regarding the benefits of the coming congress, to the people of the country, I would say that every delegate who attends this congress will receive personal benefit by coming in contact with live, practical men from all parts of the country, and by contributing his share of knowledge and experience; and it is hoped by the association that a large and influential delegation will go to Ogden. The railways have shown their encouragement by making one fare for the round trip, being $43 fom Los Angeles to Ogden and return. Tickets will be on sale September 12th and 13th, good to return to the end of the month.

Wishing you increased circulation and growing prosperity for your valuable paper, I remain, very truly yours,

C. B. BOOTHE,
Chairman Executive Council National Irrigation Association.

FROM A BUSINESS STANDPOINT

By J. W. Jeffrey, Los Angeles

LIGHT ON THE SITUATION.

The Fullerton News seems to be headed toward the light that it should long since have been in the glare of, had its editor kept his mental forces moving in the right direction in the investigation of the orange selling business. It may be the Cultivator has not been of much service in lighting the path of the News toward a fairer view of the situation of today. Such is the claim of the Fullerton journal, at least, but its editor must remember his paper has been in the public eye only a week or so upon the question of marketing fruit. What may seem good sense to the Cultivator may be deemed rank folly to those who have to look at the fruit business from a point of view held by a community never very enthusiastic upon the co-operative effort. Be that as it may, the News has opened its understanding box sufficiently to allow the driving in of a few facts, and the effort to do so will be appreciated by those who accept an honest effort as evidence of good faith.

"From our present information we are led to believe that the Citrus Union is a combine of these former cimmission men; that the Cultivator early and late held up as parasites and even robbers of the citrus growers," says the News. The News is correct in stating that the Cultivator has for years been opposed to the dealers' methods, and has not hesitated to hold up as dangerous all commission dealing in which the grower has no protection in the eastern markets. The Cultivator has opposed speculation in citrus fruits, selling in competition with the fruit of the Exchange and a dozen other inseparable abuses that had fastened themselves upon the business as it was conducted before the formation of the California Fruit Agency last spring. Now if the News man will consider for a moment what a radical change has occured in the business of the former dealers, he will discover that the members of the Citrus Union have come to the Cultivator's point of view, and that this journal has not changed one whit from the position it has held for the last ten years. Let us see what the members of the Citrus Union have given up, in making the arrangements to sell their customers fruit upon a general co-operative marketing agreement, the light must be let in upon the installment plan, and, though a good fellow, who can take a roast like every thoroughbred newspaper man should, the News man is so contrary that his enlightenment should be given in negative lines.

The Citrus Union will buy no more fruit on a speculative basis, its members have agreed to render to the grower every cent the fruit brings, above a contract price for packing and selling; the Union will buy no more fruit on any basis; there will be no more lump sum deals, no proselyting of Exchange members; the patrons of the Union will not be compelled to maintain three packing houses where one can do the work; there will be no cutting of prices in the markets of the country, for one agency controls the distribution of all the fruit in the organization and the agents have no interest in anything but the best methods of selling the fruit, the promptest returns and the administration of their office in such a manner as to make their tenure sure; there is no incentive to market manipulation by anyone, but there is the greatest reward for the proper distribution of the fruit and the securing of the most lucrative returns. In short, when the dealers surrendered all the prerogatives of dealers, speculators and independent commission men and became merely fruit packers and sellers through a thoroughly co-operative plan they ceased to represent all that the Cultivator condemned as speculators in fruit and opponents to the Exchange. They now occupy an entirely new relationship to the former co-operative growers, and in support of the new agency the Cultivator is still advocating practical co-operation as embodied in the new arrangement.

The Cultivator did not make the conditions that compelled the mutual operators and outside firms to unite into one selling agency. On the contrary this journal fought for a whole decade for a complete unity of the growers into one organization—the Exchange. With one-half the growers standing out, apparently for all time, refusing to do anything but accept the gratuitous protection offered by the Exchange, what other solution was possible than the one adopted, after the most mature consideration. By surrendering the prerogative of speculation, the profits of which were some seasons simply enormous, ten members of the Citrus Union have placed themselves upon the side of co-operation. It is true they pack the fruit upon an agreed price of so much per box. Some of the Exchange associations have their fruit packed by contract also. The members of the Union sell the fruit for a stipulated price per box. Much of the Exchange fruit was sold for so much per box at auction before it united in the selling agency. If we agree that the Exchange could never win over the outside growers and make them members, which every one believes to be true, then there is no chance for criticism of the consolidation. The few who have gone out of the Exchange in San Bernardino county will have a rocky road. They have placed themselves in opposition to public sentiment, against co-operative marketing in its broadest sense, which is the vital sense, being in relation to the fact that only a great, strong organization can compete with the opposition that will increase as other citrus countries develop the industry, and they have placed themselves in opposition to their former co-operative associates, which is the most dangerous position to assume. Those who can understand what a complete revolution there has been in the operations of the members of the Citrus Union, can see that these companies have taken sides with the Cultivator and the Exchange. There has been no change in the policy of this paper.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.
(Continued.)

In our last article we discussed that sub-order of Neuroptera with incomplete transformations, or the Pseudo Neuroptera. As we have seen the Neuroptera proper are complete in their transformations and therefore seem much higher than the others of the group. Indeed, if we separate into different orders, we would place these insects much higher. Prof. Comstock, in his classification, puts these true Neuroptera above the locust and the bug orders. These insects agree with the others in their typical mouth parts and netted-veined wings.

* * *

Hellgramites.—The Hellgramites family Sialidae, also known as Dobson flies are among the largest of insects. They remind us of the May-flies discussed last week, but pass through complete transformations. As these are very rare in California and indeed in all sections where fresh water pools are scarce, we will say little of them. The great larvae live in water and can often be found by lifting stones even in rapid running streams. These larvae are often much used for bait in fishing. They are also excellent for laboratory use as it is easy in dissections to discover and separate the various internal organs. I have missed them in my laboratory work at Claremont.

There are also two families of Neuroptera proper which are very limited in numbers which resemble the mantis, or praying mantis as it is called. But the character of their wings as also their complete transformations fixes them among the Neuroptera. In the imago of the two families, the prothorax is very long. One of these, a Raphidia is quite common in California, as nearly all my students get it in their collections.

The larvae of some of this family, Raphidiidae, are said to destroy the larvae and pupae of the codling moth. The others from their still closer resemblance to the mantis belong to the family Mantispidae. These even grasp as does the praying mantis, by the use of their front feet. The larvae are said to live largely upon spider eggs.

* * *

The Aphis Lions—Nearly all of our orchardists in California are familiar with the Chrysopa fly. This very delicate green lace-wing is common in our orchards. It is curious in laying its eggs on the ends of hairs which are attached to leaves, twigs and sometimes even to fruit. The larvae is somewhat louse-shape in form but has for its size, enormous jaws and is one of the most voracious insects to be found in bush or field. It is well called aphis lion for upon close observation we readily discover it devouring great hosts of plant lice. It is to be regretted that it does not stay its greedy appetite wholly with our enemies. It will be remembered that when the Rhizobius was introduced into the Southern California orchards, they soon disappeared and we could hardly find a specimen in our orchards, even though thousands had been liberated only a short time before. A little investigation showed that their taking off was largely due to these aphis lions. I have sometimes taken a half dozen of the Rhizobius larvae onto a sheet to find every one of them with the blood stain marks showing that they had been victimized by the Chrysopa larva.

The pupa of this aphis lion is very small and is almost a perfect sphere. it is inclosed in a pearl like cocoon of glistening silk. From this soon comes the beautiful green Chrysopa fly with its gauze like wings folded rooflike. It is probable that we receive great benefit from the work of these aphis lions although they are not always as discriminating as we should like in satisfying their appetites.

Closely allied to the aphis lions are the Hemirobians. Indeed, the larvae not only look much alike but have the same habits. As these insects are not very common in California, we will not discuss them further.

* * *

Ant Lions—What observant boy has not discovered the little funnel shaped excavations in the sand of field or roadside? If curious, he has looked into the cause of these regularly formed earth-funnels and has found at the bottom a larval insect which closely resembles the aphis lion. As he kneeled beside the insect trap he has discovered the purpose of the excavation and has learned full well why the name ant-lion is applied to these hungry insects. Some luckless ant or other insect in its quest for food passes the edge of this funnel, when it is pelted with a sand bath far too energetically to be agreeable. The sand shower, together with the steep wall of friable sand causes the ant to fall to the bottom of the hole, when it is at once grasped by the waiting ant-lion, which is wholly concealed if we except its strong jaws. The rapid motion of these jaws caused the sand shower. The same jaws now grasp the victimized insect, which has indeed entered into the jaws of death. The larval ant lion shakes the helpless ant which is soon lifeless and bloodless. The pupae of these flies remind us much of the others, as they too are in the shape of a ball and are enclosed in a cocoon. The imago would be taken by the uninitiated for a dragon fly, which they resemble very remarkably both in form and general appearance. The venation of their wings, however, is quite different. It is very easy moreover to separate these at once from the dragon flies as they have obvious antennae, which though short are never hard to find. It will be remembered that the antennae of dragon flies are very greatly abbreviated.

A small family known as scorpion flies I will only refer to in passing. They are called scorpion flies from the fact that the tip of the body of the male resembles strongly the body of the scorpion.

* * *

Caddice Flies.—We will close our discussion at this time with the consideration of these insects which are exceedingly interesting, not only from the curious protection which the aquatic larvae fashion about their bodies, but also from the fact that the lover of trout fishing finds these an ever waiting bait in our California mountain streams. The front wings are thick and root-like. The eggs are laid in the water and the larvae as soon as hatched fashions pebbles, twigs and even snail shells into a hollow cylinder which encase, and so protect his body. He has six legs at his head end, which is always at the open end of his cylindrical shield. By crawling out he can pull his case along and thus search out his food. In case of danger, he quickly retreats into his cell. I have often found a dozen or more of these under a single stone in Mill Creek. It is very easy because of these to get bait for trout fishing. The pupae are found in the same cylinders and in late summer it is not uncommon to find the thick winged imago.

We see that all of these Neuroptera proper are predacious and so are great friends of the farmer and horticulturist. As was noted in the article of last week, all Neuroptera except white ants place us under obligations for their good work in destroying our many insect enemies.

* * *

SUGGESTIONS ON SPRAYING.

I feel justified in bringing this topic to the notice of our readers again as within a few days I have had inquiries from two of our best Horticultural Commissioners, from one of our best growers, while the other night Secretary V. V. Leroy of our Claremont Farmers' club asked me to meet a number of his neighbors at his house to discuss the question of spraying and the advisability of neighborhood spraying machines. Prof. C. B. Sumner who has very fine orchards and whose judgment in all matters of citrus fruit growing is valued very highly by all who know him, has just driven me to his orchards that I might advise with him as to the how and the when of treating his orchard for black scale. Surely if there is so much of inquiry in the air and that from those who are best informed, it is almost certain that the rank and file are also eager for further advice in this matter of spraying the orchards.

Suggestions.—Close observation in the orchard shows that the black scale is hatching this year very much more uniformly than usual. This will make it possible with care to do very perfect work in their destruction. In examining Prof. Sumner's orchards today I find that not quite all are hatched out, and none are so large but that I think they will be killed by a thorough spraying done three weeks hence. I believe in the lapse of three weeks all will be hatched, so I suggest to Prof. Sumner that he wait three weeks and then spray his orchard. I believe in this case providing the spraying is well done that he will not need to spray at all next year and possibly not for two years. Prof. Sumner asked me whether I would spray or fumigate at the same price. I told him I would spray, as I find that there are quite a number of red spiders in his orchard, which are even now causing the leaves to turn yellow and the spray will certainly kill these while fumigation does no good.

Yet we must remember that spraying does not cost as much as fumigation. If one does his own spraying I believe he can do it at one-third the cost of fumigating.

I would use for oranges two to two and one-half per cent. distillate. I would get the distillate of the Southern Refining Company of Los Angeles as I have never yet heard of any complaint of the distillate they sell for such use. For lemons I would use from three to three and one-half per cent. I am in doubt why lemons stand a heavier per cent than oranges. May it not be because of the thickness of the foliage we are required to spray longer on the oranges to do as effective work, and therefore get as much real distillate on the trees with the two and a half per cent as we do on the lemon in using the three and one-half per cent.

Again we must bear in mind that spraying as well as fumigation is hard on the trees. Therefore every person should see to it that the orchard is in the very best condition of thrift and vigor at the time of spraying. It should have been irrigated a little before and thoroughly cultivated. If the leaves drop after spraying it is simply an indication that they are already weakened by the red spider in which case the spraying will do much more good than harm or else that the above rules have not been followed.

It is very important that the work be well done. Does this not require in most cases that the owner of the orchard should be on the spot all the time, even though he is not one of the workmen? Such particular work cannot safely be left to irresponsible men. I fully believe that it will pay every neighborhood to own its own spraying machine. I believe that ten neighbors owning each ten acres of citrus orchard can buy a machine and not only pay for it in the saving the first year, but also have a good amount of money left. A very signal advantage of this lies in the fact that then they can have the machine just when they wish it, which I think is a very important matter. It may also be said that it will only take a small part of the season to do their own work, after which they can loan the machine and make a goodly sum, beside aiding other neighbors who have not been as provident as they. In case this advice is followed I would suggest that the best machinist of the ten should take control of the machine and act as manager for all of the orchards and that the owner of each orchard shall engage to hold one of the spray nozzles while his own orchard is being treated. This can hardly fail to result in very careful work. Riverside, according to reports, has evidently been working somewhat upon this plan. It is stated that she has bought twenty machines in the last few days.

* * *

SUNDRY QUESTIONS.

John Moore of Playto, California, asks the following questions: "How can I get rid of willows? The more they are grubbed out the more they grow. The land is sandy." As I have frequently stated in the Cultivator, if they are kept entirely from growing so that no green at all appeared they will die soon.

Second: "My water melon vine turned brown in the center, which gradually extends till the whole vine dies. State cause and remedy." This is undoubtedly the melon blight which has been quite bad in some parts of Santa Barbara county. As I have stated before changing the location of planting, though only for a few rods, frequently effects a cure.

Third: Tomato vines turn pale and dry up, and the fruit is very much injured. What is the cause and is there a remedy?" This is probably also a blight. The vines should be watched and as soon as they show disease they should be pulled up and burned. It is also wise to treat the vines with Bordeaux mixture.

"Fourth. "Is there such a thing as over cultivating tomato vines?" I should say no. Of course cultivation beyond what is necessary does no good and is a waste of time, but that it ever harms the plants I think very doubtful.

* * *

PICKLED BROOD.

There has been considerable inquiry of late about a new bee malady which has been reported to be fatal. As I have been asked several times my opinion of this, I am constrained to make answer, although I do it reluctantly as I have not yet seen a case of the trouble. I wonder if it may not be a case of the so-called "pickled brood." In this case the brood dies but does not look at all like foul brood or the less common black brood. There is a slight odor of fermentation and hence the name pickled brood.

I was very much interested in the opinion of one of our ablest authorities, Mr. France, at the recent convention in Los Angeles that pickled brood was the result of improper nutrition from some cause or other. The first year after I came to Southern California—1894—my bees and others commenced dying quite seriously in this same way. Close observation showed that in every case there was a scarcity of honey, though never an entire absence of it. I then thought of this mal-nutrition and fed my bees, when, in every case the disease at once disappeared. I then said that I believed that too much fasting was at the root of the trouble. As I heard the address the other day I thought at once of my experience of the past, and would suggest to those suffering at the present time that they try feeding and see if they do not get benefit. I shall very soon give in the Cultivator quite a thorough discussion of this whole matter of bee diseases, as it is certainly one of the most vital points connected at present with bee culture.

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

SEPTEMBER VEGETABLE CALENDAR.

A few more sorts of vegetables may be planted in September than was advisable during August. The hottest weather is now past and we must begin to look forward to winter crops. The following may be planted: Beets, beans, cabbage, (seeds or plants of early sorts,) carrot, cauliflower, (seeds or plants,) kale, kohl rabi, lettuce, onion, parsnip, peas, radish, spinach, turnip.

* * *

AUTUMN LAWNS.

Don't forget that fall lawn planting may be done in September with excellent results, though watering must not be neglected. Furthermore do not fertilize lawns until frosts are over.

A subscriber asks where she may obtain seeds and bulbs of native plants.

Germain Seed and Plant Co., of Los Angeles and Dr. F. Franceschi of Santa Barbara handle a great many of each, but we have, in Mr. Carl Purdy of Ukiah, Cal., a bulb specialist, dealing in native stock only, who is known all over the world. One correspondent asks about seeds of Mariposa lilies, but these are a slow and uncertain crop from seeds and should, in all cases, be bought as bulbs.

* * *

FUCHSIAS.

A correspondent asks if the fuchsia may be propagated from cuttings, how it should be done and when.

Few plants root easier than fuchsias as ordinarily handled by nurserymen. The writer has put in a lot of five hundred cuttings and never noticed a cutting that died, and believes everyone of the lot rooted. They will root any time during the winter if the plants from which cutting were taken were growing well, if parent plant had been dormant for a time, failure would result. We nurserymen prefer to use pot plants even if we have to lift large plants from the ground, take large plants and wait until the higher temperature has induced a new growth; these are the cuttings which will root the more readily. Do not bother with old or stunted wood nor with that which has suffered from too cold weather. Use pure sand.

* * *

AMARYLLIS AND POINSETTIAS.

Editor Cultivator:—Will you kindly give information as to handling of amaryllis. As soon as the blossoms begin to open may the blossom stem be cut close to the ground, without injury to the bulb? Is there any way by which I may be able to secure a greater number of bulbs from this plant, whose increase is so very slow? When may it be transplanted? How many sorts of amaryllis are there?

Also kindly give instructions regarding pruning and handling of the poinsettia. May it be thumb pruned so as to make it branch out, while it is growing, or should it be allowed to grow up in a strong stock until dormant, and then cut back? One of my plants which was frozen last year has been sending out a single stalk, which is growing exceedingly strong and thrifty, having now gone up some five or six feet. Apparently it is yet full of sap and not hardened at all. Should this plant be deprived of water so as to harden the growth, or should it be kept thrifty, and will it harden its growth before danger of frost? May it propagate from the cutting when the plant is pruned, in the winter, if so how should this be treated?

The blossom stem may be cut from the bulb at any time after the flowers begin to open, without doing any injury thereby; the bulb will no doubt be benefited by such treatment. The quickest means of increasing your stock is by growing from seeds; they seed very freely and the seeds should be sown shortly after being gathered, or at once, do not plant them too deeply. Seedlings will flower the third year, in a few cases, during the second.

Increase may also be effected by offsets which should be taken in early spring and treated same as old bulbs. Spring is also the best time for transplanting, for they flower in July and August, after which they make a bulb growth until cold weather, and this growth should not be interrupted. When moving old bulbs, take plenty of earth with each bulb as they do not like their fleshy roots mutilated.

There is but one species of amaryllis, (a belladonna), known as the "'Belladonna Lily," though the species has two varieties, belladonna major, and belladonna minor, the latter being by far the best. Both are a clear pink in color but major is often nearly white inside the corolla. Amaryllis are natives of Africa while the bright red and white flowers known as amaryllis are hippeastrums from South America and most of what we see are known as hybrids of H. vittatum. These latter should be given the same treatment as the amaryllis.

The poinsettia, known to botanists as Euphorbia pulcherrima, is a native of Mexico and require heat at all times; therefore plant in the hottest and sunniest place you have, but a protected spot if possible for the

A California Pioneer.

Date Palm at San Diego, 121 years old.

plant is hurt by even a slight frost. It is best pruned in spring only and the first spring should be cut a foot above the ground and every spring thereafter leave but one foot of the previous year's growth. In this way you will get a fine sturdy plant, capable of producing an immense crop of the scarlet bracts.

The hardwood cuttings may be planted out just where you wish them to grow. It would be as well to withhold the water supply from your soft growth, for, though it might harden up before frost even with present treatment, the riper the wood is the better it will stand the cold. As stated above your plant should be pruned in early spring a hole made in the ground, for the cutting by using a stake somewhat larger than cutting, and plant two to three inches in the soil. The cutting may be of any length, but six to eight inches long is about right Cut the bottom end on a slant, about one half inch below a joint. The cuttings are easy to handle in any soil, but do not overwater.

CLIMATE AND CROP REPORT

Condensed from the weekly Bulletin issued by California Section of the Climate and Crop Service, in charge of Alexander McAdie.

Sacramento Valley.—Almonds in Yolo county are ripe and picking is in progress; the yield is about average. Grapes are ripening rather slowly, but are of excellent quality, and there is a heavy crop in all sections. Wine grapes would be improved by warmer weather. Heavy shipments of grapes and fresh fruits are being made from Sacramento. Cool weather during the season has retarded the early ripening of prunes, but this is regarded as favorable, and the crop will be large and of superior quality. Hops in the vicinity of Sacramento are nearly all harvested; the yield is about average and quality good.

* * * *

Coast and Bay Sections.—Clear, warm weather prevailed during the week, with occasional light fogs in the coast districts. Grapes and deciduous fruits ripened rapidly and conditions were very favorable for fruit drying. Prune picking and drying are progressing; in some sections the crop is reported light, but of excellent size and quality; other sections report a heavy crop. Grapes are in excellent condition and will yield a large crop in all sections. Almonds are ripening. Hop picking is in progress in Sonoma and Mendocino counties; the crop is heavier than estimated and the quality very good. Sugar beet harvest has commenced in Monterey county, and the crop is reported fair.

* * * *

San Joaquin Valley.—All of the early peaches are dried or are on the trays, and of the late free peaches only a small portion will be dried, as the demand for them fresh is good. Prunes are ripening slowly; the crop will be below average, but the quality is excellent; picking will become general this week. Almond harvest is progressing; the yield is variable, but quality excellent. The fourth crop of alfalfa has been harvested in some sections. Grapes are coloring well; the crop will be slightly below the average for raisin grapes, but shows a high per centage of sugar. Picking has begun in a few places. Large quantities of table grapes are being marketed. Stock are in good condition.

* * * *

Southern California.—Deciduous fruits and grapes ripened rapidly, and conditions were favorable for beans and sugar beets. The hot weather of the preceding week caused some damage to lima beans and late potatoes in Orange county. Grape picking has commenced in some places and will be general within a few days; the grapes are said to be of superior quality and the yield is large. Melons are plentiful. Citrus fruits are in excellent condition. Walnuts are maturing.

* * * *

Eureka Summary.—The barley crop is excellent; grain heavy. Thrashing progressing rapidly; in some localities oats and barley are all harvested. Some early appels are being gathered for the San Francisco market.

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California Horticulturally

JOHN ISAAC, SACRAMENTO

STATE FAIR AT SACRAMENTO.

The State Fair opened on Monday at Sacramento, and while the first day at a fair is generally an off day, there was a much better attendance and a better programme on this occasion than usual. Grove L. Johnson, superintendent of the pavilion, J. W. Wilson, superintendent of the track, and the secretary, Harry Lowden, have all done yeoman's work to make the present fair one of the most successful we have ever had. Some of the best racing events in the history of the society are promised, as the track is in first class condition, and some of the finest stock in the county has been entered. The exhibit at the pavilion is a remarkably good one. The display of fruits and agricultural products is large, well displayed and the specimens such as to astonish the visiting G. A. R. excursionists, many of whom are remaining over at Sacramento for this occasion. There is also a very creditable display of agricultural implements, and machinery and farm appliances. The whole is well arranged in the most artistic and striking manner. Every progressive farmer owes it to himself to visit these fairs, for the hints, suggestions, and information he can gather at them is of incalculable value to him.

* * *

GOOD WORK OF THE AGRICULTURAL SOCIETY.

The State Agricultural Society had its inception almost contemporaneously with the agricultural interests of the State, having been organized in the '50's, and in the early days it did good work in advancing the farming interests of California. The track was always a feature of their annual fairs, and a good one, but this feature gradually overshadowed the rest, until it degenerated largely into a mere gamble, and the producing farmer to a great extent abandoned the fairs to the racing fraternity. Under the new management a very strong effort has been made to correct this, and while racing events have been made a strong feature of the present fair, the other features which are of more interest to producing agriculturists and horticulturists have not been subordinated to them. The present board of directors have commenced their work in good shape, and it is to be hoped that the Agricultural Society will once again be to our producers all it was in early days.

* * *

HAY FARMERS GET GOOD PRICE.

The hay farmers of the northern counties seem to have profited from their experience in the past. Last season there was a good demand for hay and it brought very good prices, which should have helped the farmer, but it didn't. The advance did not take place until the crop was well out of the growers' hands and in those of the speculators, who formed a little combine of their own and pocketed the profits of the farmers' hay crop. This year the farmers are holding out for the profits themselves and are keeping back their hay for better prices. In the bay counties hay in the field is being held at $12 and consumers are paying from $13 to $14 for it. The man who has hay now in any of the counties around San Francisco has a good thing to hold on to, as there is every prospect of an advance even on these prices. As the crop here this season has been a very good one, it is to be inferred that if the farmer is not in clover he is at least in a good substitute for it.

* * *

PLENTY OF HELP THIS YEAR.

It is encouraging to note that as the fruit season advances the labor shortage which was feared at its commencement is not nearly so bad as was anticipated. Perhaps this was for the reason that it was looked for and our canners and packers were very largely prepared for it. The season is now well advanced and while there is ample work for all who wish it, it is evident that the unusually heavy pack of fruit this season will be handled without much trouble and with very little loss. This is a great improvement on the state of affairs in the labor market at the same time last year.

* * *

FRESH FRUIT SHIPMENTS PROFITABLE.

This has so far been a good season for the shippers of fresh fruits. Prices have, as a rule, been very satisfactory, the markets have not been glutted, and there have been few red ink returns. This is due very largely to the efforts of the California Fruit Distributors, who have kept in close touch with the Eastern market continuously and have sent shipments only to those points where there was a demand, and have carefully avoided glutting any point. There has been, too, better service on the part of the railroads this summer than heretofore and fruit has reached the markets in better condition. Grapes are now going forward from Sacramento and the first car load brought in New York $2200. We believe this is a record price for grapes. The shipments of fresh fruits from Sacramento this season have so far kept pace with those of last year, and up to the 22d. inst., had reached 4116 car loads.

* * *

TO AID BURBANK'S INVESTIGATIONS.

The Carnegie Institute has recognized the value of the labors of Luther Burbank and has come to his aid with the necessary means to make it more pleasant and at the same time furnish a wider scope for his efforts. Arrangements have been made to erect at Santa Rosa a large laboratory and experimental building from funds supplied by the Carnegie Institute. Two assistants will also be furnished Mr. Burbank for the prosecution of his work. Probably no one deserves such assistance more than Luther Burbank. He has worked along his chosen lines of plant breeding from a pure love of the science, and any emolument to be derived from his creations has been a secondary consideration with him. By his persistent efforts along one line of thought he has achieved a brilliant success, and while he has not acquired riches has made a name that is known the world over and honored wherever known. His reputation will live when names now reputed for mere wealth will be forgotten. It is not improbable that Andrew Carnegie may yet be remembered from his connection with Burbank's labors.

* * *

THE FRUIT WORKERS' UNION.

The labor problem has again forced itself on the fruit packers of Santa Clara county, where the Fruit Workers' Union has made demand on the packers. This union has recently been organized and the packers all over the state are watching it with a good deal of uneasy interest. The scale of wages as adopted is: For men and boys over 16 not less than 17½ cents per hour; boys 14 to 16, not less than 15 cents an hour; women and girls over 14, not less than 12½ cents per hour; children under 14, not less than 10 cents per hour. Men engaged in the more skillful labors to receive greater pay. This schedule was first presented to the manager of the California Fruit Canners' Association, who refused to concede it or to recognize the union. What the union will do in the matter is not known but it will probably try to enforce the scale. The increased wages is not the worst feature in cases of this kind, although these are sometimes placed so high that the employer cannot concede them without loss, but there are prospects for fresh demands, for sympathetic strikes and these are always engineered to take effect when the employer would suffer most from them. A strike at the present time, when we are in the height of the fruit packing season, would entail very heavy loss to grower and packer. It is not known what strength the union has, but if it has the strength to call out any considerable part of the fruit workers at the present time there will be much fruit wasted, especially in view of the fact that we are just at the commencement of the prune season.

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DIRECTIONS—Cut away the diseased parts of the tree, allow to dry, and apply melted wax with a brush.

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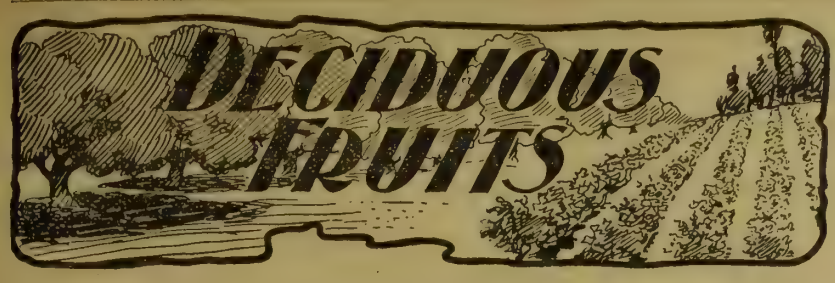

J. W. MILLS, ONTARIO, CAL.

RAISINS.

(Continued from first page)

in a room which can be closed tight or ventilated at will. After remaining in the boxes from fifteen to twenty days, the sweating process is completed and an even degree of curing is secured throughout the entire lot.

The sweat boxes are taken with the raisins to the packing tables and there the bunches are trimmed and packed for the market. A device invented by Mr. Blowers of Woodland is most generally used for packing. It consists of a metal tray just the size of the packing boxes and has a movable top. The bunches are placed on the bottom with the greater amount of stems up. When the bottom is so covered, the frame is filled till the weight is five pounds when the raisins are pressed gently to firm them, a sheet of paper is laid on top and a sheet of steel the exact width of the frame is placed on this and the whole thing turned over and placed in the box. The steel sheet is drawn out and the raisins drop in the box with the finished side up. The paper is folded over this and another layer is added. In all, four layers are used to make a standard sized box which weighs twenty pounds.

Loose grapes and inferior bunches are run through a stemmer and on through a grader which usually makes four grades. These are packed in boxes and sold as loose muscatels. A certain amount of these loose grapes is seeded by special machinery, and are used for various culinary purposes. The fourth grade of loose grapes produce seedless muscatels. These grapes are simply the small and undeveloped berries on the bunches.

The chief supply of seedless raisins (not seeded raisins) comes from the Seedless Sultana and Thompson's Seedless. The latter is fast taking the place of the Sultana in most places. It produces more to the vine and the berries are larger and better colored. The bunches are not so compact as those of Sultana and as a consequence, dry more rapidly. This grape is fast taking the place of the imported Zante currant which ordinarily does not produce well in this state. The seedless grapes are sometimes bleached with sulphur. This is a practice that will sooner or later injure the market for the seedless raisins from the sections where it is practiced. The "desert regions" of the south are fast coming to the front with these grapes and there they will dry stacked up in the shade in much shorter time than it is possible to do in the northern sections, spread out in the sun and the product is as fine in appearance as the bleached raisins and as good in flavor as the unbleached.

* * *

PRUNE TREES AND STRAWBERRIES.

Editor Cultivator: Will you please tell me through your paper if young prune trees planted this year are any the worse for having the leaves picked off by chickens, no leaves being left on and in some cases the branches being broken; are they stunted or damaged for future use?

Please give me the name of the best variety of strawberry for this county, being rather heavy soil with adobe bottom.—J. R. Brown, Santa Rosa.

It depends on what sort of growth your prune truees made before the chickens picked the leaves off. If they made a growth of a foot or more before the chicken picked them, they should come out all right next year. Of course if the trees have been injured very badly by having the branches broken, or the borers have entered the trunks or the sun has burned them in places, you had better pull them out and plant new ones. Trees that have made a good growth and then lost their leaves and a branch now and then but still have good healthy stems, will come out all right next year.

If they send out new growth and the chickens pick that off this year, they will not be worth much.

There is no way of telling which is the best strawberry for any particular section without trying them. One strawberry might do well at one place and a half a mile away prove to be very poor. We would suggest that you try several varieties. You will get berries from all of them and then you can select those which suit you best. We would suggest that you plant a dozen or more of the following: Brandywine, Dollar, Lady Thompson, Laxton's Noble, Hood River and Great Pacific.

* * *

GUM ON CITRUS STOCK.

Editor Cultivator: Do you know anything personally about the merits of Scott's wax for gum disease?

I would also like to know whether gum disease is transmitted by budding. I have noticed gum around the buds in my trees after the buds have been growing some weeks, and on nursery plants under the same conditions. It seems to me to be somewhat different from ordinary gum disease on large trees, softer and sticky, though occasionally very hard lumps will be found I have been told that this would disappear but do not know what to think

I have also noticed small red ants very active in the section where the gum appears. Whether they cause it or are there to feed on it are questions I would also like answered. Would it be best to destroy the ants with Paris green or something of that nature?—J. M. Jones, Riverside.

There are several receipts for disinfectants intended to cure gum disease on citrus trees, but we have had no personal experience with any of them. We know that growers around Pomona have met with good success by using the ordinary lime, sulphur and crude carbolic acid mixture. This is made by slacking equal weights of lime and sulphur in crude carbolic acid, using enough of the liquid to make the material into a paste when it is cold. This is applied to the trees as a whitewash, the affected parts being first scraped clean of the gum and diseased bark. The fact that the gum disease is so widely known in Southern California yields to antiseptic treatment, would indicate that it is a germ disease and therefore may be contagious. The smooth sticky gum that has been so frequently seen on nursery stock and young citrus trees during the past two or three years, appears to be different from the "scaley bark gum disease." It has been our observation that young trees affected with it do not recover. We have an orchard under our observation that was quite bad last year, about 25 per cent of the trees being affected a few months after they were planted. All of them died and a few still show the disease coming on. The orchard has been well cared for.

Plant pathologists have worked on the gum disease of plants for years, but have no definite knowledge of the subject that is of any practical value. A German scientist has grown cultures from gum that was taken from trees and produced the disease in healthy plants from it, but that is the most that has been done in that line.

It is not likely that ants have anything to with causing the disease; in all probability they are there to gather the gum when it arrives at a certain stage, though it might happen that they sometimes carry the germs from one place to another. If in any event the ants do eat the young growth, the injury can be readily deteced by examining it closely. The most effective way of getting rid of ants is to find their holes and destroy them there. Horned toads are the best ant killers that we have, and should never be disturbed. For rapid extermination of ants hot water is good when the ant den is close to plants or in the lawn. Bi-sulphide of carbon is also good, though we have had just as good success with boiling water.

* * *

CRACKING GRAPES.

Editor Cultivator: I would like to have you tell me why my Black Malvoise grapes crack open as soon as they begin to color. This is the second year they have borne. The soil is a good orange soil, perhaps a little heavy. They have had some water since setting, applied with a hose while watering other things. If this had been overdone, I would think it the reason. If cracking is characteristic of this grape I will dig them out as I have not had one good bunch yet.—Mrs. Ashenfelter, Covina.

The Black Malvoise cracks in all kinds of soils and whether irrigated or not some seasons. You are liable to lose your crop from cracking four years out of five. Our Black Malvoise are on very light sandy soil, have had no irrigation since mid-winter and still they crack. I would not dig them out, but would graft them over to Cinsaut and Trenthen Black. These two grapes are very similar to the kind you have and do not crack. They are just as good as Black Malvoise and one comes in just after the other. If you want scions of those varieties, drop a card to the Experiment Station, Ontario, and they will be saved for you. Call some time in January or send 10 cents in stamps and they will be mailed to you.

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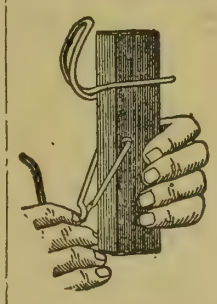

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We want every farmer to read "THE PACIFIC TREE AND VINE," one of the best journals on horticulture, poultry, dairying and home-making published in the West. Twenty-first year. Thirty-two large pages. Subscription 50 cents. Send us five names and addresses and 10 cents for a six months' trial subscription to 918 I street, San Francisco, Cal.

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We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

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PICKLING GREEN OLIVES.

Editor Cultivator: Can you or any of your subscribers give me a successful receipt for pickling green the large Sevillano olive; also what can you tell me about the true French Picholine and its successful handling?—Chas. D. Adams, Upland, Cal.

When olives are to be pickled green they must be picked before the flesh begins to soften. They must be a bright green and if the flesh begins to soften in the least, it indicates the presence of considerable oil. The bitterness must be extracted just as with ripe olives. This is done by placing them in a solution of lye, two ounces to one gallon of water. Change this solution once a day if it requires several days to remove the bitterness. It is best to keep a close watch on the fruit and see that it does not become over done or the lye does not penetrate too rapidly. This can be determined by cutting a few, the lye discoloring or changing the flesh of the olive to a lighter green. Try the lye on a few and if the lye act too rapidly, penetrating to the pit in 24 hours, change the lye every five or six hours until the change in color almost reaches the pit. There can be no definite time given for keeping the lye on them, as weather conditions determine this. If a damp foggy period precedes the picking time, they will cure in much less time than when picked just after a low humidity. After the bitterness is removed, or nearly so, rinse them in clear water until the lye is removed. The clear water should be changed at least twice each day. If a weak solution of brine is used from the beginning after the last batch of lye is used, there will be no danger of the olives softening. There is, however, little danger of that with green olives. After the lye is entirely removed, which can be determined by tasting, add a brine composed of four ounces of salt per gallon and allow it to remain on the olive for two days; add six ounces of salt per gallon to the next brine and allow that to remain on the olives for a week. At the end of that time, put into a brine of ten ounces of salt per gallon for two weeks. At the end of that time put into the final brine of 14 ounces of salt per gallon. If the brine is increased in strength gradually as directed, the olives will not shrink. In case some of them should shrink, by mistake in making the brine, take them out and soak in clear water until they are plump, changing the water twice a day during the process. When they fill out, put in brine in which they will barely sink. Increase the strength of the subsequent brines more slowly than before until the 14 ounces per gallon is reached.

In all cases great care must be observed in keeping the vessels in which the olives are being cured perfectly clean. All olives must be submerged entirely during the process. This is only possible by using weights. Cloth is spread over the olives and wooden floats the size of the vessel in which the olives are placed. The thickness or depth of the olives should not be over two feet, less being better. The lower part of the column of brine soon becomes the stongest, so the vessel should be provided with a faucet for drawing off the brine so that it may be poured back and thus equalizing its strength. No hardening material is necessary in curing green olives, brine being sufficient. It has been suggested at times to add a little alum for this purpose. This should not be done, as quantities so small that no detection is possible by taste, will be injurious to some people. It is sometimes used in certain stages of bread making. It is a misdemeanor to do so in some states and should be in all. There may be some people who will not be injured perceptibly by eating olives hardened by alum, but it should never be used for that purpose.

The French Picholine olive is one of the finest in quality, being rich in oil, having a very thin skin and growing to a very large size. It is used chiefly for making fancy pickles and can be used for making the Queen Olive. It is not a very heavy bearer with us, in fact we consider it out of the race on that point. It grows to a larger size in California than in Europe, averaging 104 to the pound there and 77 per pound here. It is much longer than thick, is thicker at the stem end and is curved. It is reddish black when ripe and comes in in midseason. It is sometimes confused with Lucques.

TIIE JOKE WAS ON PAPA.

It was a serious moment in the family. Helen Jennings was in tears and tried to speak, but her father stopped her with a sad gesture. Mrs. Jennings wiped her glasses and prepared to read a letter that she had found in Helen's pocket. To think that their Helen, who had but recently celebrated her seventeenth birthday, their Helen, who was so sweet and good and straightforward, should have a letter like this!

Mrs. Jennings read in a trembling voice:

"Angel of my existence—"

"What!" exclaimed Mr. Jennings, "What sensible man would dream of addressing a young girl in that idiotic manner? But go on, my dear."

"Existence spelt with an 'a', too," said Mrs. Jennings.

"Really, the idiot can't even spell!" exclaimed the justly indignant father. "But let us hear the next."

"It is impossible for me to describe the joy with which your presence has filled me."

"What does he try to describe it for, then, the ignoramus? But don't let me Interrupt you,'" groaned Mr. Jennings.

"I think of you constantly, and I bitterly condemn your father, the old party, who will, no doubt, withhold his consent to our union."

"Old party! ! Obstinate, unfeeling, purse-proud! And I have been the kindest of fathers. When I see this young man I will—the man that could pen those words—but go on, my dear."

"Theodore, there is some mistake; I did not see this overleaf till now," murmured Mrs. Jennings, softly.

"Eh? Let me see. Hem! "Yours, with all the love of my heart. Theodore—May 10, 1865.' Why, bless my soul, it's one of my own letters!"

"Yes, papa," said Helen, drying her tears, and taking advantage of the pause that at last gave her an opportunity to speak. "I found it in one of the trunks, and I was going to explain, only you would not let me say a word."—Epworth Herald.

A Cultivator representative writing from Escondido, San Diego county, says the hay and grain crop of that section is fine, in fact very much better than has been raised for years. Grapes and fruit abundant. The San Pasqual and Escondido dairies are running to their full capacity and their products find ready sale.

There is enough wine produced annually in California to float five battleships of the size of the Oregon.

One proof of the great diversity of California's industries is in the fact of the state receiving from the growing of garden and flower seeds between two and three million dollars annually. The biggest plantations of Central California have gone into raising seeds on a gigantic scale. For raising flower seeds alone there are 14,500 acres in Central California.

Somebody did a golden deed;
Somebody proved a friend in need;
Somebody sang a beautiful song;
Somebody smiled the whole day long;
Somebody thought, "'Tis sweet to live."
Somebody said, "I'm glad to give;"
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Somebody lived to shield the right;
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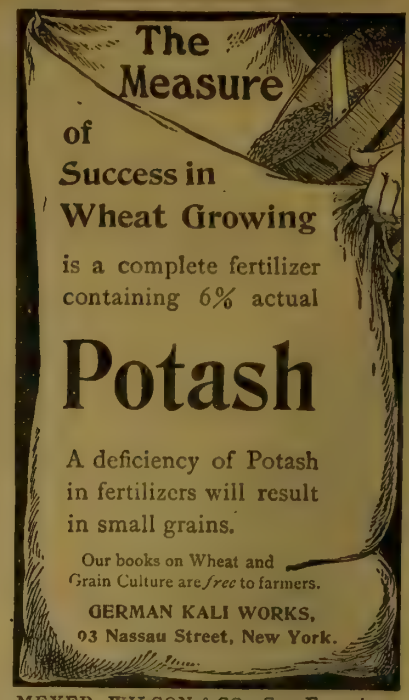
Silas Hayrick—Don't see haow thet kin be. We've never burned gas—always used lamps.



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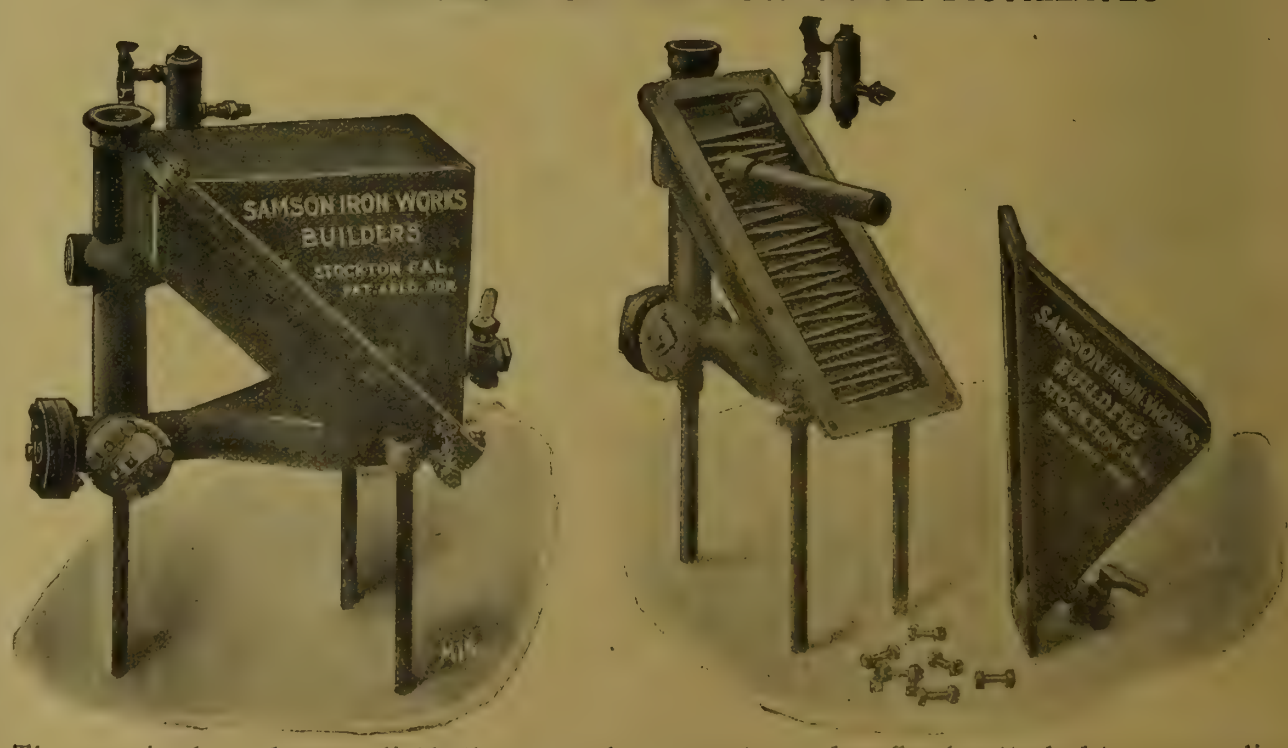

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General Agriculture . . .

BETTER ARSENICALS.

Prof. Geo. E. Colby of the University of California, in a recent bulletin on Paris green investigations says that the market is fast growing to be in a very fine condition as to the quality of Paris green. More and more is the poison offered coming up to the standard prescribed by law, especially those containing less than four per cent of "white arsenic."'

NEW SALAD PLANT.

The Saturday Evening Post is authority for the statement that the U. S. department of agriculture will soon introduce a Japanese salad plant called Udo. It describes the plant Udo as a plant that is very tender, combining the taste of celery, lettuce and pineapple. It is as crisp as the tenderest shoots of celery, but has no stringy fibers; when cut up it is white and emits a pleasant odor. It is abundant in the winter and for that reason will be greatly valued. After being planted, all the grower has to do is to cut his crop year after year for ten years, after which the field must be replanted. In Japan the shoots sell at a high price, frequently sixteen stalks sell for twenty-five cents.

SILK CULTURE.

From many sources the Cultivator is asked to give information regarding silk culture, the raising of the silk worms, mulberry trees, etc. This industry is one peculiarly adapted to California, and it seems to us that we only need men who understand the work to come here and establish the industry that the large number already interested would have some one to go to for the required information to make silk culture a success.

In a recent number of the Oakland Enquirer a Mr. H. A. Kelly, writing from Blowing Rock, N. C., urges the California Promotion committee to get in communication with Italian silk growers, who have made a great success in the work. He says that over $100,000,000 worth of silk was manufactured in the United States last year, all the raw silk being shipped in. California alone sould raise this raw product and thereby add another valuable industry for the benefit of its citizens.

AMERICAN POMOLOGICAL SOCIETY.

From the interest manifested among fruit growers throughout the country it is expected that the Boston meeting of this society will be the most largely attended session that has been held in many years. The leading State horticultural societies and similar organizations have appointed delegates to it and most of the important fruit growing sections of the country will be represented by leaders of horticultural thought and achievement in their respective localities.

The time of this meeting, which is the Twenty-eighth Biennial Session of the Society, has been fixed for September 10, 11 and 12.

The sessions will be held in the beautiful new horticultural hall of the Massachusetts Horticultural Society, where the fruit exhibit, which is a prominent feature of these meetings, will also be displayed.

NATIONAL FRUIT AND WINE EXPOSITION.

A Fruit and Wine and Allied Trades Exposition, the first ever held, will be given in the very center of New York City for the two weeks of January 18th to the 30th, 1904.

It will be held in the Herald Square exhibition hall, the largest permanent exhibition hall in the metropolis, having nearly seventy thousand square feet of floor space.

The purpose is to assemble the largest and a complete display of fruits and wines ever shown, and thus to increase the interest of the growers, packers, shippers, dealers, and buyers of the world and the consuming public generally in the wonderful strides made, especially in this country, in the development of these industries.

The fruit and wine interests of the Pacific Coast and the fruit interests of the South will be especially represented, as will all the allied trades connected with these industries.

BURBANK ON ROOT-PRUNING.

Every experienced nurseryman trims all the small side roots off his nursery stock before planting. This is a universal custom, and in my experiments I have found that seedlings and very young trees should always be treated in this way under all circumstances. A young seedling tree which has had its roots cut off to within a few inches of the collar, and the top almost wholly removed, will in all cases make a far better growth than the one planted with all its roots, even if the top should be removed. Of course it is necessary to remove the top in proportion to the amount of roots removed, and strange as it may seem, it is especially necessary to prune the roots short when they are to be planted on land that has little moisture near the surface. For the trees having many side roots divide their forces in starting in all directions, instead of making a good, substantial main tap root, which the closely pruned seedling will always proceed to do. Though of universal application, these facts are especially applicable to dry climates like California and Texas.—Luther Burbank in Rural New Yorker.

WHAT ALL SHOULD LEARN.

There is no study more attractive to children than botany. It deals with things they are familiar with, but know but little about. As soon as they begin to learn the relationship between races of plants, and the peculiarities of structure upon which that relationship is predicated, they begin to entertain new ideas of their old friends, the plants and trees, wild and cultivated, and when they learn that these plants are male and female, and that reproduction requires the influence of both sexes, and they learn the names and uses of the different parts of root, stems, branches, leaves, buds, flowers and fruit, an interest is kindled that causes a craving for more kowledge; how plants grow; how plants feed; formation of seeds; production of fruits; how soils are made; what soils contain; effects of sunlight, rains and frosts on vegetation; fertilizing soils; the uses for which crops are grown, all these grow naturally from botany. Botany leads by easy gradations into agricultural science. There is no place where the one ends and the other begins. Agriculture cannot be taught without botany, and botany cannot be fully taught without encroaching on the domain of agriculture. Every child in an agricultural country should be taught the elements of these twin sciences. When that is done, we will see school children become teachers of their parents. Parents will naturally take interest in that which their children are learning, and they will learn as fast as the children, and the more insight the parents acquire on these subjects the more they will become interested, and the more they will learn. Therefore botany and agricultural science ought to be taught in all our country schools, and no harm will be done if the same things are taught in all schools and to all pupils regardless of sex. Some of the best farmers in the country are women. We have never known an ordinarily intelligent woman to undertake farming and fail. In the future there will be many more women farmers, and they will succeed, because the determination which will inspire a woman to undertake farming will also insure success. Then let us have agricultural science taught in all schools, both theoretically and practically. Let all who favor this proposition says aye, and say it out loud.—Farm and Ranch.

The San Dimas Nurseries have an order for two carloads of orange trees for shipment to Johannesburg, South Africa. Mr. Teague has heretofore made some small shipments of orange trees to that country, but this is the first large order. The two cars will be sent on Express time to New York City, and connected there with the fastest steamers to South Africa.

The prune growers of the Toluca valley will have a crop of prunes estimated at between seven and eight hundred tons green. The two deciduous exchanges there will handle most of the crop.

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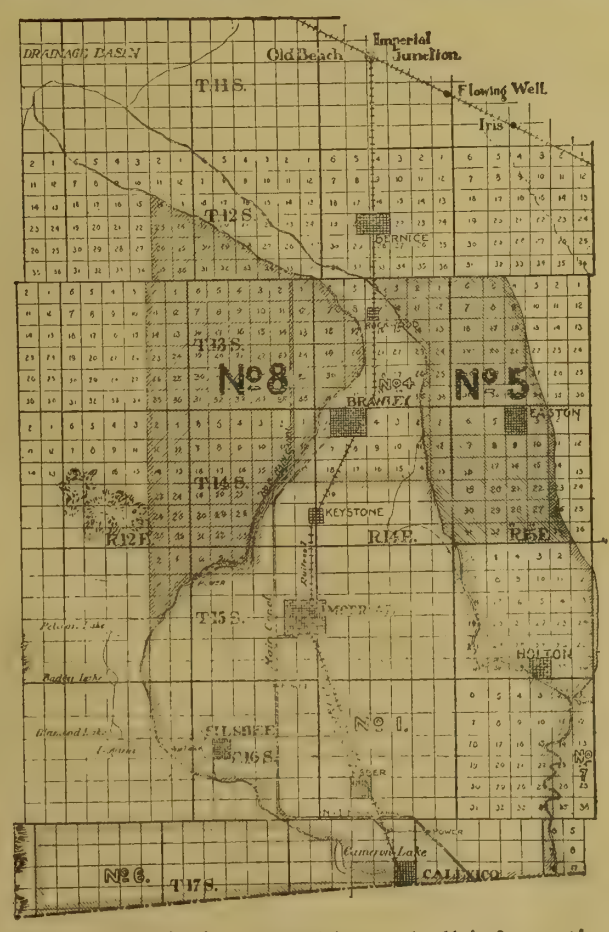

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Irrigation Notes

A FOREST POLICY.

With the intention of fixing upon a proper forest policy, California has undertaken this year, with the help of the Bureau of Forestry, a comprehensive and detailed study of its forests. The State legislature recently appropriated $15,000 for the study, the condition being that it should be carried out by the Bureau of Forestry, and that the Bureau should bear half the expense.

The State desires to know those facts about its forests that will guide it in passing wise forest laws. It desires to know, for instance, what disposal should be made of the State forest lands, what should be done to regulate the cutting of timber on them, how forest fires may best be restrained, whether tree-planting in denuded areas will pay, etc.

The work is now begun and it will require several years for its completion. Maps will be prepared, reforestation studied and the effects of fire and water sheds.

The Bureau will also make a study of the chaparral lands of Southern California in order to learn whether it will pay to plant them with timber trees. A very interesting question has been raised as to whether chaparral—which includes a great variety of scrub trees, such as manzanita, scrub oak, valley mahogany, and scrub cherry—will retain the moisture in the soil as well as timber trees. Chaparral grows denser than timber trees, and often reaches a height of 20 to 25 feet and a diameter of 16 to 18 inches. L. C. Miller, who has charge of this work, is now making a study of the conditions under which chaparral grows in the San Gabriel mountains, near Pasadena, where the Bureau has been planting pines and cedars for several years.

IRRIGATION EXHIBIT AT THE WORLD'S FAIR.

There will be an irrigation demonstration prepared by the government for exhibit at the St. Louis Exposition which will consist of at least three models. One of these will reproduce in miniature the Tonto storage dam, another will include a section of the box canyon below the dam, and the third, showing a typical irrigated area will be a close reproduction of Mesa City, Ariz., on a scale of about 20 inches to the mile. This model will show houses, farms, orchards and the canals and ditches with their headgates and power works. Mesa City is an ideal irrigation community. It was originally settled by thrifty Mormons, who took small holdings and made the utmost use of every acre. As the name indicates, the place is situated on a fertile tableland, and is about eighteen miles east of Phoenix, Arizona. The preparation of these models will be under the direct supervision of the Geological Survey, and an agent of the Survey is at present in the Salt River Valley gathering data from which the details of the construction will be made. It is expected that this exhibit will have not only a unique interest for the people of the eastern United States, but that it will still further convert them to a realization of the value of western irrigation in the development of the whole country.—Forestry and Irrigation.

Magnolia Avenue, Riverside.
Once a Sheep Ranch. Result of Irrigation.

AMOUNT OF WATER REQUIRED TO IRRIGATE AN ACRE.

A cubic foot per second flowing through an irrigation season of one hundred days will deliver about 200 acre-feet, or will cover 100 acres 2 feet in depth. In most localities this is sufficient water for the production of an average crop. In California, where water is scarce, less is used, and for orchards twice as large an area can be irrigated.

When irrigation is first practiced more water is needed to thoroughly wet the subsoil, but after a few years a less quantity is required, and in some localities, as at Fresno, California, no water is applied on the surface, the seepage from the canals keeping the fields sufficiently moist.

Two acre-feet for an acre is an average allowance for the arid region as a whole.

Five acres per miner's inch, or 250 acres per second-foot, may be taken as the most economical use, say at Riverside and Redlands; where ditches are lined, water is carefully measured, and citrus fruits are irrigated. This must be furnished about two hundred days on an average. It is equivalent to 1⅜ acre-feet of water per acre irrigated. This duty can be improved by the use of pipes.—Forestry and Irrigation.

STUDYING FOREST FIRE PROBLEM.

The Bureau of Forestry has this year undertaken a thorough study of the forest-fire problem in several different regions. It has placed men in forest districts to study fires while in process of burning.

The investigation is now in progress in Northern Florida and Southern Alabama and Georgia under direction of Ernest A. Sterling and H. J. Tompkins. Later in the season the fires of the Pacific Coast will be studied.—Forestry and Irrigation.

NATIONAL IRRIGATION CONGRESS.

On another page may be seen a communication from C. B. Boothe, regarding the National Irrigation Congress which will be held at Ogden September 15-18. It is very clear setting forth of the benefits of that meeting to the whole country and the advantages to each section to be fully represented there. To give a more definite idea of who may go as a regular delegate, we give the following as a basis upon which the official call announces that delegates may be sent:

The Governor of each state and territory to appoint twenty delegates.

The mayor of each city of less than 25,000 population, two delegates.

The mayor of each city of more than 25,000 population, four delegates.

Each board of county commissioners, two delegates.

Each Chamber of Commerce, Board of Trade, Commercial Club, or Real Estate Exchange, two delegates.

Each organized irrigation, agricultural or live stock association, two delegates.

Each society of engineers two delegates.

Each irrigation company, emigration society or agricultural college, and each college or university having chairs of hydraulic engineering or forestry, two delegates.

The Congress will convene at Ogden on September 15 and continue three days.

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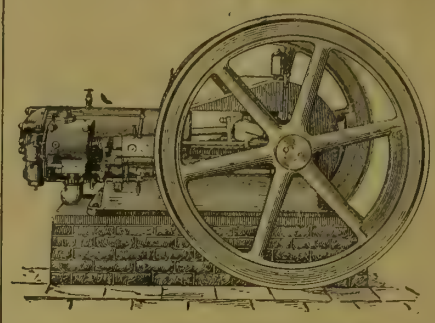
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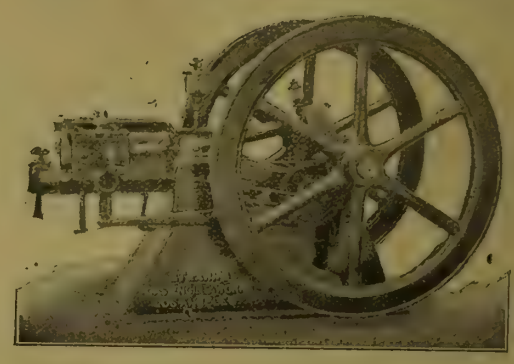
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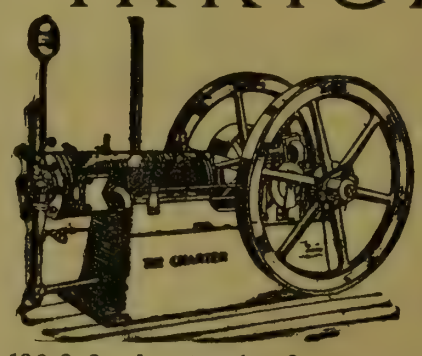
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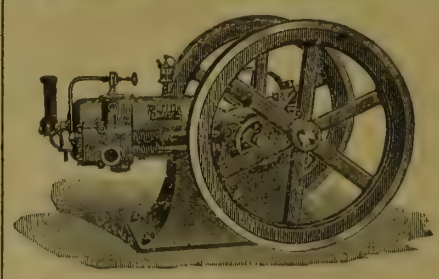
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THE ART OF MILKING.

There is no branch of dairying which has received so little attention and close thinking, whether on the part of the dairyman himself, or the scientists who are investigating dairy subjects, as the important item of drawing the milk from the cow. In a general way, we all know that the manner of milking has much to do with the profitableness of cow keeping. We all know that there are good milkers and poor milkers, but just why one person is a good milker and another is a poor milker, it has been deemed impossible to determine, and still more impossible to describe.

As in so many other matters, it has remained for little Denmark to take up this subject in a careful, painstaking inquisitive way, and among other attempts to solve the milking problem, the Agricultural Society in the County of Svendborg, a couple of years ago, arranged a competition for writing a short and popular article about the work of milking. From among the manuscripts submitted, that of Mr. Jorg. Peterson, head master at the Agricultural College of Dalun at Tyen, got first prize, and some thousands of copies were printed for distribution in the little kingdom.

From a translation of this essay, for which we are indebted to one of our English exchanges, we select and condense as follows:

It is a general rule, appropriate to all living beings, that the use of an organ of the body promotes the development of that organ; this rule is thus also appropriate to the organ of the cow which we call the udder. The use of it is the milking, and in that we have the most important and best means of developing the udder of the cow, and at the same time also her milking power. But in order that the use of an organ may produce a higher development of it, it is also required that it will exert the organ. The exertion of the udder consist of milking it perfectly free from milk. The milker must take as an example the greedy calf, which sucks the very last drop out of the teat. This causes an increase of blood to the glands of the udder, and this is evidently of the greatest importance, knowing that it is from the blood all material for further development and for more milk is got. But, above all, is evident the importance of clean milking young cows or heifers, the udders of which are still growing and developing. What a good milker has to do, is not only to get out all the milk that is in the udder, but also to do that in such a manner that the cow feels it as an enjoyment, and further to take care no dirt or impurities get into the milk.

Before beginning milking, the milker ought to speak kindly to the cow, pat her and carressingly smooth her along the belly and the udder. The milk pail is then placed under the udder on a certain side of the cow, and he takes, with full hand, hold of two of the teats, one fore and one hind teat preferred. The hands are alternately moved upwards to the udder by a gentle pressure, and then, also alternately, slowly and lightly, closed downwards round the teat. These grasping movements are continued till he perceives the cow yields the milk, when the latter is got out of the udder in long, consistent streams ;the movements of the hands are the same as at the beginning, only a little more vigorous. For every new movement the hand must make a pressure up against the udder, and, at the same time, the thumb and forefinger shall seize the part of the udder which is next above the teat, in order to get as much milk as possible from the part where the milk reservoir is the largest.

During this part of the milking the conscientious milker must give all his attention to his work, for every interruption in it means loss of milk. All noise and loud conversation must, therefore be strongly forbidden during the milking, as disturbing to both cow and milker. When the first pair of teats no longer yield any milk, he proceeds in the same manner with the second pair. The milk must be squeezed, not pulled, from the teat. The latter must, therefore, as before mentioned, be taken in the whole hand, which must not more than is absolutely necessary glide along the teat. "Streak-milking," by which the upper part of the teat is squeezed between the thumb and the forefinger, or, worse still, between the fore-finger and the middle finger, and then the fingers tightly pressed, drawn downwards, is very objectionable. It is disagreeable to the cow, irritates the skin of the teat, and may easily cause sores; but not only that, it may even cause bursting of the mucous membrane of the milk-cistern and thereby cause a serious illness in the udder. A hard-handed milking often causes perturbations in the secretion of milk; in that way a cow may, for instance, become hard milked; a teat may from the same cause, easily be made quite useless, and a cow become what is called three-quartered.

But milking the cow is not yet completed. An effective after-milking must take place, by which the milker by means of suitable manipulations must work and knead the udder to press the last drops of milk out of the teats. A great many examples could be told about the influence of clean-milking upon the quantity of both milk and butter. In Germany the experiment has been tried of allowing one person to milk five cows during fourteen days, and then another person milk the same cows during the following fourteen days. The cows were fed and served during the whole time in quite the same way. The result, however, was that the second person on an average got about 2 kilograms (4 lbs. 6½ oz.) more milk per animal per day than the first one. At a similar experiment made in America by Prof. Babcock, in Wisconsin, three cows were milked during a week by one person A; the following by another person, B. From the milk A received during this week 11.8 kilograms butter was churned, while from the milk B got only 9.8 kilograms butter was produced, a difference thus of 2 kilograms.

This result is not only owing to the greater quantity of milk received, but, more still, to the fact that the last drawn milk is by far the richest. That this is the case anybody might easily ascertain for himself by pouring the very first and the very last drops of milk from the same teat into cream tubes. When comparing the tubes after the cream has risen, he will be surprised at the great difference in the thickness of the layers of cream; the milk first drawn looks, judging from the layer of cream, like good skimmed milk, the last milk drawn is more like thin cream. Through an experiment tried at an agricultural school in Denmark, it was found that the first streams of milk contained only 0.06 per cent of fat, while the last strippings contained as much as 10.2 per cent of fat.

A thoroughly clean milking, therefore, is very important, not only as a means of developing the milking power of the cow, but also to produce richer milk. And the milker who does not give himself time thoroughly to milk the cow clean, either does not understand his duty or does not care to carry out his work conscientiously. It is important also how often the cow is milked daily. Some experiments concerning this question have also been tried, which show that the more times a day the cow is milked the more and richer the milk she yields. But whether one milks three times or only twice a day, the intervals between the milkings must, as far as possible, be of the same length. The cow is in a very high degree dependent on habit, and her udder works even and regularly. The milking hours, therefore, must be

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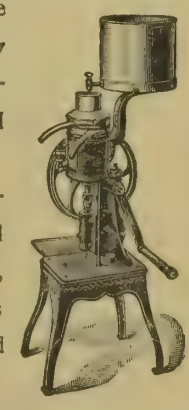
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carefully observed, and the same persons must every time, in the same course, milk the same animal. If the milking is begun too late, the cow becomes uneasy, and the tension of the udder causes pain to the animal—in both cases loss of milk ensues. The fact that the quantity of milk is lessened by milking less frequently and less energetically is a thing of which one avails one's self when wanting to dry a cow. But even in this case it is a bad plan to clean strip the udder; it is by far preferable to milk less often, finally only once every other day, every third day, or more seldom still, till the cow gives so little milk that the milking might be dispensed with altogether. During the biestings period is must be considered not only wrong, but even dangerous often, and hard to milk such cows which show any disposition for milk fever. According to examinations made by a famous Danish veterinary surgeon, this disease is caused by an increased activity in the udder, which must be considered still further increased by energetic milking. But for these two periods, when the cow is being dried and when she gives biestings (first milk), she can scarcely be milked too hard (that is too often and too energetically).

The milker must pay great attention to the cleanly condition of the udder and the teats. If he observes knots or tenderness in the udder, sores on the teats, the milk canal stopped up, or the milk having an unnatural appearance, etc., he must at once tell the foreman. Disease in udders and teats often being contagious, cows in that way infected must always be milked the last, and the milk from the affected part of the udder be put into a special vessel and destroyed, in order to hinder further spreading of the infection. The milk canal in the teat is sometimes very tight (the cow being what is called hard-milked) or often shows an inclination to get stopped up.

To use a straw, or such like, to widen and "cleanse" the canal is very bad policy, because in that way inflammation of the corresponding part of the udder might easily follow. A teat which has a stopped milk canal must first carefully be worked or kneaded between the palms of the hands, and then carefully milked clean. A heifer is often sensitive for the milking manipulation, and this sensitiveness will sometimes last until she gets older; in this case the milker must be still more kind and careful at the milking; and means of restraint or force must be used only in case of great necessity.—Hoard's Dairyman.

THE ANGORA GOAT.

The Angora goat industry on the Pacific Coast is growing steadily, especially in Oregon is the number rapidly increasing. Regarding Angora goats, G. F. Thompson, Clerk of the Bureau of Animal Industry at Washington, says:

"A large class of people in some way have become possessed of the opinion that the goat is practically a useless animal. They do not reach conclusions upon investigations, however, and do not discriminate between the different breeds. To them a goat is a "goat," and there the argument ends. Investigations prove that the Angora goats are not only classed among the most useful of the domestic animals, and have been so classed for thousands of years, but their usefulness is manifested in a variety of ways. The fleece, called "mohair," furnishes some of the finest of fabrics among ladies' goods and is used in various other manufactures; their habit of browsing enables the farmer in a wooded locality to use them to help in subjugating the forest; their flesh is exceedingly delicate and nutritious; the milk, though not so abundant as with the milk breed of goats, is richer than cow's milk; their tanned skins, though inferior in quality to the skins of the common goat, are used for leather; their pelts make the neatest of rugs and robes; they are excellent pets for children; a few of them in a flock of sheep are a protection from wolves and dogs; their manure is noticeably helpful to the grass which follows them after they have cleaned away the underbrush."

The best localities for the Angora goat seem to be on high ground where they will not be subject to foot rot. Wet or marshy ground is not at all suitable.

Goats require a great amount of exercise. They are a great browser and are sensitive of restraint. They can withstand great cold provided their wool is kept dry, but let them become exposed to cold rain or sleet and they will die off easily.

They are an economical animal to keep owing to their fondness for leaves and twigs, but they also reqquire other feed, such as oats, straw and fodder. In Texas they do well when fed on cotton seed. Care must be exercised to be sure they have plenty of salt. The best way is to have rock salt in boxes of easy access; there is no danger of their eating too much of it.

The products of the Angora goat are its wool, its milk, its flesh and its manure. So far the market for good mohair has been good and prospects are that the demand will continue indefinitely. A practically pure bred goat will shear from three to five pounds, which is worth from 30 to 40 cents. In cold countries goats are sheared only in the spring, but in climates like California they may be sheared twice a year.

The milk of the Angora ewe is uncertain in quantity, usually much less than that of the short hair breeds. It is particularly good for infants and is practically immune to tuberculosis.

The meat of the goat usually passes in the market as mutton from sheep. So far the prejudice against goat mutton has caused it to sell in the live stock markets at about a half cent per pound under sheep. The packers buy them as goats and sell them as sheep in the form of dressed meat or canned.

Goat manure sells at a good price as a fertilizer, it having special properties beneficial to fruit trees and lawns.

Regarding the building up of a flock Mr. Thompson says:

"It is assumed that whoever goes into the business of raising Angora goats does so for the production of mohair, rather than meat or skins, and so it is to his interest to have a flock that will yield a profit from the beginning. The best flock for this purpose is one composed of thoroughbreds. Such a flock will yield good mohair from the first. Those who enter upon the business of goat raising, however, must make their operations conform to their capital, the same as in any other business. They will find that desirable does will cost from $5 to $12 each, and bucks all the way from $50 to $100 each; so that a large herd of this kind, although preferable, will cost a small fortune, and is beyond consideration by most people who will engage in the industry."

There are three registration associations in the United States, one at Kansas City, one at Salem, Oregon, and The Bailey Angora Goat Association of San Jose, Cal., have kept a record for years.

BLINDERS.

Blinders were invented by an English gentleman to conceal the diseased eye of a valuable horse, and as a coat-of-arms could be placed on them others followed his example. They are never used in Russia and a shying horse is almost unknown there.

YOU SHOULD DISCARD BLINDERS

1. Because unsightly. The beautiful eye of the horse is exchanged for a piece of leather.
2. Because they are a cruelty to the horse. All animals enjoy the use of their eyes.
3. Because they frequently injure the eye-balls by pressure, and when out of order by flapping against them. When close to the head, also, the nerves irritated, causes inflammation.
4. Because animals are often terrified by what they see imperfectly, or hear and do not see.
5. Because veterinarians discovered long ago that "blinders" are a common cause of disease of the eyes. Cavalry, police and fire department horses have no blinders.—Our Dumb Animals.

Before retiring from office General Nelson A. Miles issued an order to prevent the docking of horses. This was one of the last orders issued by this general, and one for which he should have the thanks of all people. No more beautiful horse exists than one with a long, natural, flowing tail.

The man at his work! There is nothing finer. I have seen men uncouth, homely and awkward when "dressed up" who were superb when at work.—The Philistine.

TO FARMERS, STOOKMEN, DAIRYMEN:

SUGAR BEET PULP
(Kow-Sauer-Kraut)
also **MOLASSES**
FOR SALE

"KOW-SAUER-KRAUT" 50 cents per ton F. O. B. cars fresh from factory. Conceded to be the cheapest and best dairy food in California. Write for freight rate if too far to haul.

MOLASSES, 75 cents per barrel. Consists almost entirely of carbohydrates. (sugars) cheapest and best food for fattening stock of all kinds. Send for testimonials regarding feeding value of molasses for **working horses, fattening cattle** and **growing pigs** and **calves.**

The Louisiana Planter says: "It has been proved conclusively a pound of molasses has a feeding value about equal to that of a pound of corn."

Los Alamitos Sugar Co., Los Alamitos, Cal.

SLEEPY HOLLOW HERD OF HOLSTEIN CATTLE

We have just received from the Eastern States two carloads of officially tested cows. This has overcrowded us for the present, and to make room we are offering some excellent young cows for sale. They are all in calf to our great herd bulls, and right now are in fine condition to ship. For full particulars write

R. M. HOTALING
Rialto Building San Francisco, Cal.

1,200,000
U. S. CREAM SEPARATORS

This seems a great number of separators. Does it not? It is a great number, but these figures are as easy to make as smaller ones—and, as our "would-be competitors" make their figures

400,000

and we sell three separators to their one, the reader can see our figures are within the FACTS—

POUGHKEEPSIE, N. Y., March 1, 1902.

Fifteen years ago last October we started our creamery on the co-operative plan recommended by your agent, fitting the building with machinery from your Company, and using the Cooley Creamers for the patrons. We have run on this same plan for all these years until Sept. 1899, when we put in separators. Our patrons are using more than three to one of the U. S. Separators over all other makes, and we believe the U. S. Separator to be the best on the market

We are still working the cream gathering plan, and believe it to be the best for the rural districts, where unavoidably some of the patrons are a long distance from the creamery. We are satisfied with it, because we believe it to be the best and the cheapest. No farmer can afford to hitch up and carry his own milk, even if he live within half a mile of the creamery, if he can get it done, as we have this year, **at the average cost to each patron per day of 9 cents, and some years for less.**

H. R. HOYT, President La Grange Creamery.

Bear in mind that the main factory of the De Laval Co. is at Poughkeepsie, and that that company boasted that no other separator could be sold in their county.

Send for illustrated circulars.

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Vermont Farm Machine Co., Bellows Falls, Vt.
323

SOUTHERN PACIFIC

CHOICE OF 3 ROUTES
EAST AND WEST

"SUNSET" Via El Paso and New Orleans
"OGDEN" Via San Francisco and Portland "SHASTA"

The service on these trains is perfect. The time is the fastest. The scenery most beautiful. The tourist car service appeals most directly to those who desire to travel at a high rate of speed, but prefer to economize a little on sleeping car accommodations The Southern Pacific runs personally conducted tourist excursions every day in the week at reduced rates to various points in the east, without change, via all routes. A conductor accompanies the train to destination, and is ever ready to attend to the wants of the traveler.

SOUTHERN PACIFIC
261 SOUTH SPRING ST.

SHORTHORNS.

John Lynch of Petaluma is one of the enthusiasts on the dual purpose cow. A cow valuable for dairy purposes also of good proportion and build for beef as well. We give on this page a couple of illustrations of Mr. Lynch's stock. Wildwood is one of his prize-milkers and Orrick is at the head of his herd. Regarding the points to be looked for in the Shorthorn, Mr. Lynch

Orrick, 183,987

says: "For a milker, select a light red color, with red and white markings. Roan or light colors generally prove greater milkers than the deep red. Soft yellow skin, silky hair, fine tail, prominent eyes, are points which must be looked after.

There has been steady improvement

Wildwood, a Typical Dairy Shorthorn.

in the shorthorn cow for years and it is today a better milk breed and a better beef breed than when it was first imported from England. Regarding the claims for his favorite breed Mr. Lynch says:

"It would be highly questionable to claim that the best type of a beef animal would serve well for the dairy, but any reasonable man must admit that by breeding and cross breeding for twenty-five years along dairy lines, a type of animal may be developed that can be justly called the milk strain or dairy type of shorthorn."

DO CATLE HAVE HOLLOW HORN?

A subscriber writes the Tribune and inquires if it is true, as he has often heard, that cattle have the hollow horn.

It is true, and the size of the hollow in the horn generally depends upon the age of the animal. In young calves there is no hollow, but by the time the animal is a year old the hollow appears and in old cattle it is quite large.

The above answers the question as to fact, but we surmise that subscriber wanted to know if there was a disease called hollow horn; that is, do cattle get sick, the cause being hollow horn. To that we answer most emphatically no. When we were boys on the farm, in the springtime when the cattle were thin and run down on account of short feed, the old farmers would say that they had the hollow horn and the remedy was to bore a small hole in the horn and put a tablespoonful of spirits of turpentine in the horn. In boring the hole, when the gimlet or small bit would go through the shell and drop into the cavity, they would exclaim: "We were right; it was the hollow horn," and, in fact, they were right, for the animal did have a hollow in the horn. The animal being sick, as they thought, needed extra feed and care, and getting it, soon commenced to pick up naturally and they thought they had cured the disease.

Many persons did not know that cattle's horns were hollow until they had seen a lot that had been taken off by the dehorner. The disease among cattle—hollow horn—has gone where many other things have gone that were once considered true. We never hear of it now except as a relic of past ignorance. No worker on the diseases of cattle, unless he be an ancient one, ever mentions the subject, except to declare that there never was any such disease.—Farmers' Tribune.

HORSE NOTES.

The writer never found anything better for sprains and bruises than strong vinegar and salt, brought to the boiling point and applied as hot as the horse will permit. It is a good plan to first wrap cloths, soaked in hot water, around the injured place so as to steam and foment it well and then apply the hot vinegar and salt. The same treatment is one of the best for the same injuries in the human family, and where the sprain is very painful it will relieve in a very short time.

Horses should be watered with regularity, as it is as essential to them as grain when you want to put flesh on them.

A good poultice for a bruise or sore on a horse is made from ground flaxseed, ground slippery elm bark and new milk—equal parts.

How often one sees a horse wearing a bridle that does not fit; it is either too long or too short; if too long the bit drops down in the horse's mouth and constantly annoys him; if too short it is constantly drawing up the mouth and is a source of not only annoyance to him but often of great pain. A horse cannot work with any degree of comfort if the bridle does not fit, and the same is true of the collar. Adjust all parts of the harness so they will fit nicely if you want the horse to work with ease and be contented.

Many horses' shoulders are ruined because the collars do not fit properly. Sweney, sore shoulders, sore neck, etc., are generally caused by the collar not fitting the horse. A collar should fit snugly, and when it has been fitted by use to the shoulders of a horse it should not be used temporarily on another horse. Such use changes its shape and it will not fit the horse when it is again used on him.

The hames have much to do in making the collar fit and they shoud be carefully fitted to the collar and shoulders of the horse. The hames should be neither too long nor too short; they should be neither too wide nor too narrow at the top of the collar, and the same is true of the bottom. They should be fitted so the weight of the pulling would not come too high up on the shoulder nor too low down on the point of the shoulder. See that the hames fit properly if you want the horse to work with ease and have good, sound shoulders.

The writer, when he purchased a new collar, carefully fitted it to the neck and shoulders of the horse that was to use it; then took it off and soaked it thoroughly in water; put it on and drew it up close to the neck with the hames and put the horse to work. The collar being soft and pliable will soon fit the horse exactly and when it gets dry will remain so. A good fitting collar is as easy and comfortable to the horse as a close, easy fitting pair of shoes is to the human wearer.

More collars are worn too wide than too narrow, and as a rule are too long than too short. Be as particular in fitting the collar to the horse as you are in getting a pair of shoes to fit you.—Ex.

SOLOMON ON FARMING.

"Day unto day uttereth speech and night unto night sheweth knowledge." Thus wrote the Psalmist several thousand years ago. Probably he did not have in mind the problem of dairy farming, but his words apply there as well as elsewhere.

The business of keping cows is full of speech, if those who follow it have ears that are willing to listen; and it abounds in knowledge, if they will but seek for it.

How clearly Solomon understood the value of intelligence as a factor in successful farming, for he says in Proverbs: "I went by the field of the slothful, and by the vineyard of the man void of understanding and lo, it was all grown over with thorns, and nettles had covered the face thereof, and the stone wall thereof was broken down."

A more graphic description of shiftless farming has never been given.—Hoard's Dairyman.

INCREASED INTEREST IN STOCK.

It is gratifying to note the increase of the interest in the raising of stock in this state. Originally it was the only industry. Later came the development of mining and the grain, then the fruit industry. All the time vast quantities of dairy, meat and poultry products have been shipped to this state from the Middle West. Within the past few years this situation, and the fact that the great possibility of development were lying dormant has begun to be changed. The development up to this time is only a forerunner of that which the next few years will see.

The long-headed stock breeder who is preparing to meet the demand and take advantage of it will secure a fine strain of pure-bred stock. In the meat breeds, pure-bred stock, either cattle, swine, or sheep, will dress from 30 to 50 per cent more a year old and will dress much more also in proportion to their live weight than the common stock, and even the graded stock from pure-bred sires will take on an added value for market.

In the matter of poultry and eggs alone this state imports from two to three million dollars each year. And California has a climate in which chickens may be raised the year around.

THOROUGHBRED POLAND CHINAS

Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons, KINGSBURG, CAL.

WANTED Twelve—more or less —high grade **JERSEYS**

from this county or adjoining counties. Must be strictly good individuals.

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F. A. MEACHAM

BREEDER AND IMPORTER OF

RED POLLED CATTLE SHROPSHIRE AND AMERICAN MERINO SHEEP

Both Sexes For Sale

Live Oak Ranch PETALUMA, CAL

FOR SALE

YOUNG HOLSTEIN BULLS

Percheron Brood Mares and Stallions all Registered. Write or call.

Minnewawa Stock Farm, Fresno, Cal.

Done Easily:

Leave California today, tomorrow at

Grand Canyon

Spend a day—and on your way via the

Santa Fe

Trains to the rim

STATE FAIR

$20 ROUND TRIP

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One Fare and One-Third From All Points in Southern California

TICKETS ON SALE AUGUST 29 TO SEPT. 12, INCLUSIVE

RETURN LIMIT SEPT. 14

Particulars at 261 South Spring Street, Los Angeles

Southern Pacific

DAIRY AND STOCK NOTES.

Courtland, Sacramento county, has many serious cases of anthrax.

* * *

Preliminary steps have been taken for a co-operative creamery at Yuma.

* * *

The Isleton Creamery is making from 1400 to 2000 pounds of butter daily.

* * *

A dairy company has been incorporated in Alameda county with a capital stock of $50,000.

* * *

The English Jersey Cattle Society have issued "Jersey Cattle, their Feeding and Management."

* * *

R. W. Davis of the Gardena Creamery, is putting in a large combined Disbrow churn, with a capacity of 800 lbs.

* * *

The Polled Hereford Breeders' Association is among the associations making appropriations for special prizes at the St. Louis show next year.

* * *

The Co-operative Dairymen, of Kings county, have contracted with the Sunset Cream and Butter Company, San Francisco, to sell their butter fat. The company is to pay for the fat at the rate of 1½ cents above the Examiner's quotations for butter.

* * *

. There is much waste stuff on the farm that can be turned into pork and made a source of income instead of going to waste, if the farmer so chooses. More than that, if his swine are of the breeds that mature early and grow to good weight in six or eight months, he makes a double profit from them as compared with the "razor-back."

* * *

The average California farmer does not seem to appreciate the value of a few sheep on the farm. In the East almost every farmer has a few sheep that supply him with mutton and spring lamb for his table, and perhaps some for the butcher, as well as a few pounds of wool to sell. He hardly misses the amount it takes to feed them, as they forage on much waste material that other stock do not eat. two or three well-bred ewes, the cost of which is not great, will in two years by their increase repay the cost of an extra board or wire on the bottom of the fence around the field and will add much in future years to his table, to say nothing of the income from their wool. There are but few farms in the state where a few well-bred mutton sheep would not add to the profit side of the ledger, and the State Fair is the place to go in order to study the varieties and select the most profitable.

* * *

C. H. Sessions, who has for several years supplied information for the Dairy Department of the Cultivator, has just returned from an extended trip through England, Germany, France and Italy. He reports a magnificent trip, is completely rested, together with some little information along the stock line which he has picked up on the trip. He is yet too fresh from the trip for us to gather from him any extended information before we go to press, but we hope later to give some of his impressions of the country which he visited. Yesterday morning at the Belle-Vernon Farms Company he was busy looking after the magnificent appointments of that institution which have been installed in his absence by his partner, Geo. E. Platt. While there are larger plants of this kind in the country, there are none more complete and better fitted for the handling of milk for city trade than this is. While some of the work has been carried on there for several weeks the plant is not fully complete yet. When it is the Cultivator hopes to give something of an idea of how milk is handled in this institution.

* * *

While the Jersey Association of Southern California is not represented by any of its stock in the State Fair, its president, Guy H. Miller, and treasurer, Geo. H. Thomas, are on the fair grounds this week to investigate stock conditions in general in the northern end of the state. They will visit some of the dairy sections near Modesto, Jacinto, and other places with possible reference to securing cheaper lands for dairying than can be had in Southern California.

* * *

The Jersey Breeders' Association of Southern California is still hoping to pull off a fall fair and butterfat test, but the committee in charge find two very serious obstacles in the way of inauguration, to make it sufficiently sure at this moment to say that it will be held. The two objections are the want of sufficient funds and sufficient time on the part of a few energetic people to push the preliminary arrangements. Chairman Platt of the committee is still in hopes that more interest will yet be taken, and by October 1st the arrangements completed that an exhibition may be made which will give greater impetus to the Jersey interests in this section of the state. It surely will be a mistake to drop matters at this time for this dairy breed in Southern California seems to be the leading favorite. However the Holstein people are not idle and this coast has some of the finest stock of that breed the world has ever produced, so our Jersey people had better watch out and not go to sleep on their laurels.

The Point Arena Creamery is a co-operative institution and since its organization has paid every year 18 per cent upon the stock. This concern has all the latest improved machinery, which handles the milk of twenty-seven patrons, who own 650 cows. The price which the concern has netted to the growers has been 25 cents per pound for butter fat. The milk averages four per cent of butter fat. The gross amount of butter produced in January was 3,912 pounds, February, 7352 pounds, March, 15,096 pounds, April, 19,020 pounds, May 21,634 pounds, June 19,674, and July 14,968 pounds. The rate per hundred pounds of milk ranges from $.96 to $1.20.

THE WORLD'S FAIR COW DEMONSTRATION.

The cow demonstration proposed as one feature of the World's Fair cattle exhibits at St. Louis next year has been definitely arranged, and on a much broader scale than anything of the sort heretofore attempted. It has been designated as a "cow demonstration" because, while not in any way neglecting the dairy test idea developed at former world's fairs, it is intended to illustrate in a comprehensive way the practical adaptabilities of the pure-bred cow. The strictly dairy breeds are given opportunities to make a large showing, while features not in the least conflicting with their privileges enable the dual-purpose breeds to demonstrate their value for both dairying and beef production. This means a demonstration rather than a competitive test, and will enable each breed participating to show its own peculiar advantages.

The Jersey, Short-horn, Brown Swiss and French Canadian associations have already entered. Entries will be permitted from individuals on behalf of other breeds if received before December 1. Prizes will be awarded to herds and to individual cows, and entries of from five to twenty-five cows may be made by representatives of any one breed. The same cows may compete for herd and individual prizes.

The tests will continue one hundred days, beginning Monday, May 16, 1904, and will be conducted in four classes, designated as Tests A, B, C, and D. Test A is for the demonstration of the economic production of butterfat and butter; B, of milk for all purposes related to dairying; C, of all the products of the cow, and D, for demonstrating the greatest net profit in producing market milk. In Class C the calf will be judged for its beef merits. A cow may be entered in more than one class.

Copies of the rules may be had by applying to F. D. Coburn, Chief of Department of Live Stock, World's Fair, St. Louis, Mo.

* * * *

The dates for exhibition of live stock in the several divisions will be as follows: Horses, asses and mules, Monday, August 22, to Saturday, September 3, 1904, inclusive. Cattle, Monday, September 12, to Saturday, September 24, inclusive. Sheep and swine, Monday, October 3, to Saturday, October 15, inclusive. Poultry and dogs, Monday, October 24, to Saturday, November 5, inclusive.

LOOSE MUSCLE.

Editor Cultivator:—I have a cow which looses milk from its teats after three o'clock in the afternoon. Will you kindly inform me would there be any gain in milking three times a day. Is there any possibility of its injuring the cow?—R. A. G., Petaluma.

Yes, the cow should be milked three times per day. When dried off, a permanent cure may be effected possibly by making a few light cuts in the opening of the teats, which in healing will contract the sphincter muscle to an extent sufficient to retain the flow till the regular milking.

GREASY BUTTER.

Editor Cultivator: I have a fresh cow of the Jersey variety. Have no trouble whatever in making the butter come (about five minutes) and by the free use of ice works nicely the first time. My trouble commences at the second working. Although I keep it in the refrigerator, as soon as I commence working it the second time it begins to get greasy and mushy and in a short time becomes the consistency of gravy. Can you suggest a remedy that will help me in making good firm butter from this particular cow's milk. She is such a good cow in every other particular that I am loth to part with her.—C. H. A., Ontario.

This query was referred to C. S. Burgess, the veteran butter maker of Riverside. In reply he says:

The trouble is caused by churning at too high a temperature. If C. H. A. will see that the cream is not above 60, lower would be preferable, say 58 degrees, fininshing at 60 degrees, washing water 58 degrees. No one can churn in five minutes and make fine butter, as in churning so warm the butter granules are broken up, thus causing the soft greasy condition of C. H. A.'s butter at second working. Then, again, it is not necessary at all to work butter the second time, as of old. If the work is properly done, if the cream is ripened up as it should be and churned as above directed, it will come in granules about the size of rice kernels. At this stage should stop churning and draw off buttermilk, draining it out well, then add rinsing water, which should be churned say half a minute, so as to thoroughly wash the butter—should use as large a quantity of water as of clear churned butter-milk drawn off (water should be about 2 degrees colder than buttermilk); draw this off, add salt and work. Do not work too much; just enough to thoroughly incorporate the salt, so as to not leave mottles or streaks. Never attempt to work butter when it is soft. If you pride yourself as a buttermaker, never let your butter get in that condition. If you must work twice, let the first working be just enough to distribute salt among the granules of butter, let stand long enough for salt to dissolve, then work—in the meanwhile should be kept at a temperature of 58 or 60 degrees. All my instructions are for summer buttermaking—warm weather.

If I knew what sort of an apparatus C. H. A. has for making butter I could give instructions in accordance. I separate a heavy cream—40 to 45 per cent of butter fat, ripen up and churn at 53 to 55 degrees, a thinner cream it would be necessary to churn at a higher temperature. One should never churn in less time than thirty to forty-five minutes to churn exhaustively—to get all the butter and make gilt-edged article. Kind and quality of food fed to cows has something to do with color, firmness and quality of butter, yes, and I may truthfully say the breed as well has an important part. Will perhaps write some more at another time. C. S. BURGESS.

The eleven fastest trotters are Cresceus, 2.02¼; Lou Dillon, 2.02¾; The Abbott, 2.03¼; Alix, 2.03¾; Nancy Hanks, 2.04; Major Delmar, 2.04; Azote, 2.04¾; Directum, 2.05¼; John A. McKerron, 2.05¼; Lord Derby, 2.05¾; The Monk, 2.05¾. No other blood but the Messenger, coming through his great grandsons Hambletonian and Mambrino Chief, has produced this extreme speed in the trotter.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.
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REGISTERED JERSEY CATTLE
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Three Young Bulls
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MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

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HIGH GRADE, STANDARD BRED JERSEYS
2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
GEO. Y. COUTTS Orange, Cal.

LEMONITA HERD
Leffingwell Rancho, Whittier, Cal.
Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
Terms reasonable. Liberal reductions to those coming from a distance.
No charge for service on cows having authenticated fat or butter records.

Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
E. E. MOORE, Compton, Cal.

Venadera Herd
OF REGISTERED JERSEYS.
Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices
GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT Station B, Los Angeles

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.

THOROUGHBRED BERKSHIRE HOGS
FOR SALE
GEO. C. ROEDING, FRESNO, CAL

JERSEY BULLS OF ALL AGES
FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY - DUARTE, CALIF.

BEE SUPPLIES—G. G. Wickson & CO. 123 N. Main Street, Los Angeles, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

THINGS TO KNOW.

Linseed meal will brighten the plumage of the fowls; it is also a correction for indigestion, and will often promote laying. Given twice or three times a week, a teaspoonful to each hen, in the soft food, it answers the purposes of medicine. For drooping and moulty hens it is excellent.

For worms give a few drops of turpentine, and next day a small dose of jalap.

Iron in any shape is good for the fowls. A little copperas (sulphate of iron) added to the drinking water, or ground fine and mixed with the food, is an excellent tonic, and will soon effect a healthy appearance in the fowls. An old iron pot makes a good drinking vessel on account of the iron rust it throws off. Iron filings or iron cinders placed in the drinking-water will afford iron to the poultry.

Copperas is one of the best disinfectants for the manure compost and for the fowlhouse. It will at once suppress the offensive smell.

Green food of some sort is a necessity to poultry.

Pound up the bones for the hens; there is nothing they relish more. Place the bones in the oven, or lay them on the hot coals, let them dry thoroughly, and then they can be pounded small with a hammer.

Burnt bones are also good. Let them burn till they will crumble when pounded, then break them up lightly and the fowls will eat them greedily. In this way they get charcoal as well as good grit.

A dust bath is just as necessary for the hen as another sort of bath is to human bipeds. Make a box 3 feet square, or larger if required, and about 6 or 8 inches deep. Fill with dry dust or wood ashes, or the two mixed; place under a shed or house away from chance of wet, and where the fowls can get to it easily. Renew every week or two.

Maize should never be fed in this climate, except for an odd week or two.

When cleaning out the fowl houses do not leave the sweepings where the hens can get at them and scratch them about. Burn everything to get rid of the vermin, or else take it all to the compost heap.

Profits in the poultry-yard hinge not on breeds and varieties, but on birds. Breeds have certain characteristics, but it is the individual which pays or fails. The poultry-keeper will do well to take notice of each bird and its performances, and not rely on the fact of their being of this or that breed.

The most common cause of failure in poultry-farming are over feeding, impure water in fowl dishes, poor ventilation in the houses, filth and vermin—the result of neglect in cleaning out the pens and the houses. Worst of all, indiscriminate in-and-in breeding.

Early feeding is a necessity if the fowls are expected to do their best. Where it is impossible to feed the young stock shortly after sunrise, it is a good plan to leave some grain over night, so they can get it themselves first thing in the morning.

Give the fowls fresh water twice a day, and during the hot weather see that the water tin is well shaded. Sun-heated water is often the cause of much disease. Enteric disease is frequently caused by it.

Give the moulting hens a few handfuls of hemp seed now and then; it will help to loosen the old feathers.

Crossing should always be done with intelligence and for a purpose—flesh value, or, in the fancier's case, feather, size, shape.

Where egg production is the motive, it is more a mating of individual birds which have proved themselves good layers than it is the crossing of two varieties.

POULTRY EXPERT'S PLAN.

There are so many different methods of feeding hens that no one can say positively which is best and prove it. Much depends upon the use to which the stock is to be put. If it is merely desired to get a large number of eggs, and get them steadily, heavy meat feeding is probably best. Animal matter in some form is essential. It may be supplied through the medium of cut bone or in beef scraps. Either is good, but it is much harder to prepare the bone. The best quality of ground beef scraps sells at from $35 to $40 per ton, and is ready to use without any work or trouble. On the average we think it gives quite as good results as the bone at a less cost time counted. Such meat as is fed is generally mixed with corn meal bran and other ground grains. The proportions are selected to suit the fancy of individual feeders. We prepare a mixture of about three parts wheat bran one part ground oats one part corn meal one part beef scrap. To this mixture add one-fifth in bulk of sweet cut clover (alfalfa), salt slightly and moisten to a crumbly consistency with hot water in winter and cold in summer. We feed all the birds will eat once a day. The same ration is good for growing chickens. The soft food may be given at any time of the day, but experience has led us to use it at noontime or night in the winter, and in the morning during warm weather. If fed the first thing in cool weather the birds get down off the perch, fill up and stagnate till the digestion is well over. On the other hand, when given a feed of fine dry grains they go to work and get exercise and breakfast at the same time. Again, it gives the feeder more time later in the day. It takes much longer to properly feed soft than hard foods, and work in the morning is usually more pressing than later in the day.

All grains are fed in litter of some kind—hay, straw, leaves, or any clean substance that will make the birds scratch and hunt for the seeds and bits of grain.

Heavy feeding is best. We believe in hard feeding, and never let the fowls go hungry if we want lots of eggs. Market birds, or those making market eggs, should be forced all the time, and when they no longer lay turned off and others put in their places. Animal matter and lots of it is the key to successful egg production. Of course the stock must be natural egg producers to get the best profits. All kinds of grain may be fed; cracked corn, wheat and oats are best. Corn is a good egg food; and, if the soft food is made up largely of wheat bran and oats, little other hard food need be used.

Ground oyster shell and clear grit of some kind should be within reach at all times. Good gravel will answer as well as more expensive materials. Clean, pure water is necessary, and it should be fairly warm in winter and cold in summer. Any kind of vessels may be used to hold it, and should always be kept sweet and clean.

Don't fuss too much over the feeding; simply give the right kind of birds lots of it, and they will do the rest.

These few suggestions apply only to our breeds. Not all birds will stand such "advanced" work.

If the eggs are to be used for hatching, don't force so hard. Let the pullets mature slowly. Give them lots of exercise and range and let the eggs come along more naturally and not so early in winter. Generally hard, persistent winter laying results in poor hatching and weak chickens in the spring.—Pollard's Farm Circular.

The world treats you as well as you treat it.

JACOB KREGER
Route 1 - Anaheim, Cal.
BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
Eggs and Stock for sale at reasonable prices

White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.
G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.

The largest poultry supply house in the United States
KOW-KURE BAG BALM
LEE'S STOCK CONDITIONER
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COTTON SEED MEAL
"THE ECONOMIC FEED"
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Don't believe all we say but just enough to try our Poultry foods.
Emery's Pure Meat Meal Emery's "B. B. & B."
Ask your nearest dealer for them and take no imitations.
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

From Siskiyou to San Diego—anywhere in this great
STATE OF CALIFORNIA
You can, during September, use the best poultry
GRIT and SHELLS
At San Francisco prices. The shells are clear white and granulated the proper size for chickens, so that there is no waste. They are not "kiln dried," but retain the substance the fowls need. The "Henteeth," or grit has sharp edges, which it retains until consumed. It is impossible for it to wear smooth.
100-lb. Sack "Henteeth," the best poultry grit } $3.00
100-lb. Sack Granulated Oyster Shells } Freight Prepaid
Send for samples before buying to make sure you are getting the best.
GEO. H. CROLEY, Poultry Supplies
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WHITE PLYMOUTH ROCKS
GIVEN AWAY
"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.
Eggs—13 for $2.00.
INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2.50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.
Mrs. A. Basley
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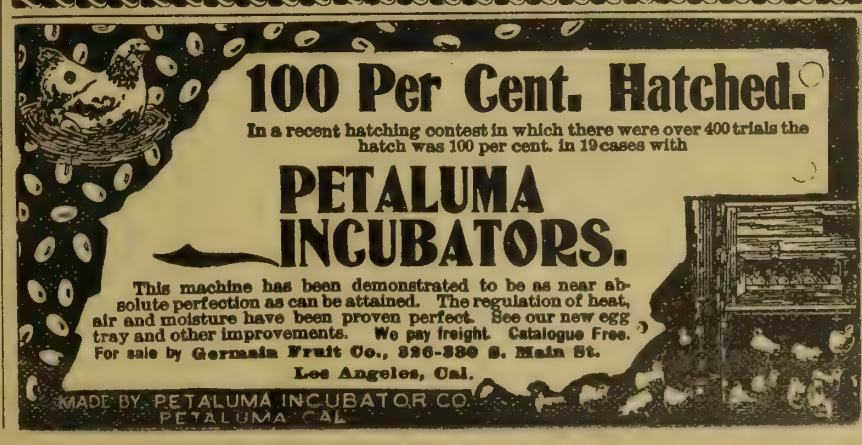
MATURED
Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W Leghorns
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.



POULTRY SHOWS.

Poultry shows as announced for this year are:

Mechanics' Pavilion, San Francisco, Cal., December 1-5, 1903, under management of the Oakland Poultry Association. J. C. Williams, Secretary, 33 Market St., San Francisco.

Los Angeles, Cal., December 8-12, 1903.—Annual Exhibition L. A. Poultry Association. H. W. Kruckeberg, Secretary, 123 S. Los Angeles St., Los Angeles, Cal.

Fresno, Cal., December 16-19, 1903.—Annual Exhibition Fresno Poultry Association. Geo. R. Andrews, Secretary, Fresno, Cal.

San Diego, Cal., January, 1904.—The San Diego Poultry and Pet Stock Association. Harry McIntire, Secretary, San Diego.

GREAT SCOTT.

The Farmers' Tribune published at Des Moines, Iowa, publishes the following in its issue of August 19. It's a regular whale of a story and beats ours recently published regarding 10,000 hens averaging three eggs a day each, under electric light treatment. The worst of this is, it seems to be given in sober earnest. Here it is:

"The largest chicken farm in the world is situated at Petaluma, California. It has 13,000 laying hens and many thousand chicks in brooders. The receipts for one days scale of eggs amount to $3,500. This farm supplies more than one-half of the eggs and poultry used in California, besides sending great quantities to the East—Hawaii and the Philippines.' '

Now if 13,000 hens supply more than half the eggs and poultry of California, also great quantities back East, Hawaii, Philippines, etc., etc., we must be light eaters.

Guess again, Tribune. We're some on stories ourselves, but the ribbon is yours.

ANSWERS TO CORRESPONDENTS.

Editor Cultivator:—I have a few questions on pigeons which I would like to have answered in the Cultivator. I feed wheat. Is there any other feed which would be good as a change? What do they build their nests with? They don't seem to like hay. Should they have grit, if so, what would you suggest? How is salt fed them? I have twenty-five pair of homers from the Plymouth Rock Squab Co. of Boston, and have had them ten months now. They are perfectly healthy and seem well contented, but they spend all their time sunning themselves, and so far only one pair have raised squabs. The house is plenty large and clean, they have a large flying pen and running water. Can you tell me what is the trouble? I feed them wheat and a few split Canada peas.—G. E. S., Arroyo Grande.

You have apparently only one female amongst your pigeons. I believe this as they have not bred, and as you say they spend their time sunning themselves, which the males are fond of doing, I would advise you to put a few females into your loft and watch the results.

I think pigeons enjoy a change of ration, I feed my large English Runts wheat, cracked corn, Kaffir corn and rolled oats, a little barley occasionally, they do not like peas or cracked beans, preferring the other food. I give them alfalfa hay and straw for nests, they prefer the little sticks in alfalfa hay. I also give mine coarse river sand and chick grit, charcoal the size of wheat, and a lump of rock salt, or very coarse salt in a bowl. Mine breed about every six weeks. The rolled oats helps give the great size being fed by the parents to the young.

All fowl and animals like a variety of feed.

TESTING EGGS.

A new method of testing eggs for their freshness has been communicated to the Agricultural Society of Saxony.

An egg plunged in water tends to rise with more buoyancy according to its age, owing to enlargement of the empty space at the thick end by evaporation of water from the white. Hence the egg takes a different position in the water.

Fresh eggs remain horizontal, an egg three or five days old makes an angle of twenty degrees with the horizon, one eight days gives an angle of forty-five degrees, and at the end of fourteen days the angle is sixty degrees. An egg three weeks old lies at seventy degrees. One three months old remains vertical, and when it is older still it floats.—Poultry Journal.

In order to perpetuate and more fully develop certain points, it may be necessary to inbreed fowls, the same as fine stock breeders have developed points by inbreeding of choice animals. But it must not be continued long as it has a tendency to decrease size, standard and vitality. Poultry, as well as animals, should never be inbred more than twice, without going outside the family and infusing new blood of the same breed, after which another inbreeding may be done. Bates was the greatest breeder of the Shorthorns, he developed a fine family of that breed by doing so, but they run too small and fine and lost much of the vitality of the original breed; so it will be with inbreeding of poultry, they will run smaller, finer, will be less healthy and the eggs will be less fertile.—The Farmers' Tribune.

C. J. Armstrong, a successful poultry raiser of Sonoma county, says: "Run incubators in February and March. A little blue stone in the drinking water makes a good tonic for drooping chickens. The less patent medicine and patent foods used the better for the chickens. Plenty of good common sense and good care will bring better results than any other method.

Don't take too much stock in spontaneous sympathy. It doesn't wear well.

THE PEA-FOWL.

It seems a pity that such a superb creature as the male of this variety of the gallinaceous tribe should be so seldom seen, that is, compared with other useful and ornamental fowls. Some people object to him on account of the peculiar cry which he makes in the early morning, because he is destructive in the garden and quarrelsome with other poultry. But with regard to ourselves he becomes quite tame and gentle, even taking his food out of the hand; his greatest charm, however, is his lovely plumage, which is more gorgeous than that of any other bird which has been acclimated in these Isles. His body is about the size and shape of the Guinea fowl, his head is very small, of a beautiful purple, and has a tuft or crest of 24 feathers which are only webbed at the tips, where they show lovely green and blue reflections; his eyes are dark brown with pearly edges. His neck, which is very long and slender, and his breast are rich purple casting beautiful blue reflections; his back is green, the feathers being laced with copper color; his wings are light gray, barred with black, gradually shading into dark blue; the primaries, or quill feathers and the real tail feathers are dark rich chestnut; his thigh are generally gray, and the other parts of the body black; and his legs, which are spurred, and like those of ordinary fowls, and his feet are brown; last, but not least, for it measures about three feet long, comes the train. This is commonly called the tail, but is composed of the tail coverts, these feathers growing from the middle of the back, and being glossy green, ocellated at the tips. When the train is raised and spread open like a fan, the tail is also elevated and forms a frame or support for it. The peacock sometimes makes a curious clattering noise by shaking his plumes together, probably to attract the female.

The peahen, like most other female birds, is much quieter in color, most of her body being chestnut brown, mottled or shaded on different parts with dull or greyish white, particularly on the wings and tail. She also has a crest, but neither so tall nor so brilliantly shaded as the male's.

This is the common peafowl, which is so plentifully found in some parts of the Indian jungle, that to go out shooting it is not thought good enough sport. This species is indigenous to India, Ceylon, and the adjacent islands. It has, however, been kept in England for many hundreds of years, and as early as 1254 Henry III offered a peacock as a prize at some athletic sports.—Fancier's Review, Scotland.

"Yes," said the inventor, "I think I see millions in it, if I can only get the thing to work." "No doubt," said the doubting friend. "What have you in mind now?" "A scheme for confining cyclones in bicycle tires. See? There is your ideal motor, at merely the cost of capture."—Indianapolis Journal.

Chickens at Petaluma, the Poultry Center.

The last census states that Petaluma has over one million hens, mostly White Leghorns. About $3,500 per day are the receipts from the sale of eggs alone.

POULTRY PROFITS.

Does poultry raising in California pay? Often I am asked that question, and without hesitation I can say—yes. Some one with a head for statistics has figured that the egg product in the United States amounts to more than the combined gold and silver production; and that eggs and poultry together are nearly double the value of the gold and silver output. My experience with the two as sources of income makes me believe that his figures are correct, especially if the chicken ranch is in California.

As a side issue I raise a few pure white Holland turkeys for my own use and a few years ago was fortunate enough to get a pair of Indian Runner ducks from a celebrated Australian flock, which are fast claiming a place beside the chickens as money-makers. These ducks flourish as wonderfully as though natives of California. The dryness and the conditions in general seem especially suited to their needs, probably because they came originally from India. As layers they have averaged 233 eggs a year. The eggs taste like those of the hen, and the meat is delicious in flavor, quite like that of the canvas-back. They are easy to raise, require no water and bear confinement well. Besides being profitable, poultry-raising has the additional advantage of being outdoor employment, and that in California means health, which is everything.—Mrs. A. Basley in Sunset Magazine for September.

TOO BUSY TO EXHIBIT.

Office of the Must Hatch Incubator Co. (Incorporated). A. E. Bourke, President. Phone Black 1192.

Pelaluma, Cal., August 29, 1903.

Cultivator Publishing Co., Los Angeles, Cal.

Gentlemen: Yours of the 25th at hand, and in reply wish to say that, owing to the rush of business and personal attention required in supervising the enlargement of and the installation of new and improved machinery in the Must Hatch Incubator plant, we will be unable to make any display of our Must Hatch Incubators and Supplies at the State Fair at Sacramento, this season.

Our new factory is now complete, size 145x40 feet, three stories high. We are now prepared to fill all orders on short notice, but owing to delay while enlarging we were delayed in filling past orders.

Inclosed you will find copy for our ad, which you will run as per contract. Yours, very truly,

MUST HATCH INCUBATOR CO.,
Per A. G. S.

Visiting poultrymen to the State Fair will miss a great treat by the Must Hatch people being unable to exhibit their Must Hatch Incubators and Brooders, for they are one of the best and most successful machines on the market today, and are of special interest to Californians as they are a home product. The Must Hatch Incubator Company began business on a small scale three years ago in the attic of a small barn at Petaluma, and today the plant is one of the special points of interest to all visitors to Petaluma, the people of Petaluma pointing with pride to the success of the firm. In the design the incubator differs very much from the ordinary machines and are the original ideas of Mr. Burke, who has by tireless energy and experiment constructed a machine that is, without doubt, one of the best on the market, sales of machines now reaching all quarters of the earth.

For catalogues and information write or call on the Must Hatch Incubator Company, Petaluma, Cal.

"Hear the story about the fly paper?"

"No."

"Well, you'll be stuck on it."

Where Poultry Supplies Are Handled by the Carload

The A. R. Coulson Co., Petaluma, Cal.

SO SUCCESSFUL

Has been the sale of Coulson's Poultry Medicines and Poultry Foods, etc., that on August 25 a company was incorporated for $25,000.00 and only $5,000.00 worth of stock remains to be sold. The balance has been paid in. The name of the company will be A. R. Coulson Company and the headquarters and principal factories will be at Petaluma. The company is incorporated for a term of fifty years and will manufacture, buy, sell and deal in merchandise of every description. The number of its directors shall be five, of which A. R. Coulson is president. The amount of capital stock actually subscribed is as follows:

NAME	RESIDENCE	AMOUNT
A. R. Coulson	Petaluma	$9,000.00
Lucinda Coulson	"	1,000.00
R. M. Skinner	"	100.00
Helen M. Skinner	"	4,900.00
J. Hall Lewis	"	1.00

SUCCESS INSPIRES CONFIDENCE

Our success was immediate, That the confidence of our earliest customers was not misplaced is shown by the rapid growth of our business. Today we point with pride to the best equipped establishment of its kind on the Pacific coast, occupying over 5,000 feet of floor space, in California's famous poultry city, Petaluma. Here we manufacture medicines, extracts, etc., but our principal output is poultry medicines and balanced rations for poultry and stock. We send out from 10 to 15 carloads of poultry food a month.

A larger amount of Coulson's Poultry Food is used by the poultry men near Petaluma. Many of the poultry men haul to their ranches by the 4-horse wagon load. For instance: Geo. Gaston at Two Rock has 2500 laying hens and feeds them a mash every morning of Coulson's Egg Food, using over 50 sacks a month of it, and has been feeding it for over a year with good results; W. Church, who has about 3,000 chickens; C. C. Boyson, who has about 3,000; and Mark Hardin, who has about 3,000, all use big loads of this feed with good results. Many of these large ranches near Petaluma are commencing to hatch out large broods of young chicks and they feed them Coulson's Growing Chick Food, which is a complete balanced ration food for little chicks, being composed of grains, seeds and meals, etc., all thoroughly and properly mixed ready to feed.

IF YOU ARE GOING TO RAISE ANY LITTLE CHICKS

You surely want to get in a few sacks of Coulson's Chick Food. A free sample will be sent for the asking. Over 125 stores in California now handle Coulson's Poultry Foods, but in case no one has it for sale in your town, you can send to factory and get factory prices and have it shipped to you by freight. We will soon have ready for free distribution 10,000 copies of illustrated catalogue and poultry account book and egg record, a nice book to keep accounts of the profits or losses from the poultry business. We can also supply you with White Leghorn eggs for hatching in any quantity at a little above market quotations. We also manufacture Lice Killers and Poultry Disinfectants and Medicines and if you want good Poultry Supplies at small cost send to us or ask your dealer for Coulson's Poultry Foods.

One of our Salesmen on His Regular Trip Through Southern California. Photograph Taken at Watsonville.

A. R. COULSON CO.

(Incorporated) **Petaluma, California**

NOW AND THEN.

GRANDSON.

(Allegro accelerando.)

Now I wonder, excuse my impertinent tongue,
How you ever went anywhere when you were young;
For you couldn't recline in a plush-covered chair
And be rapidly carried with ease anywhere
While the train hurried on over mountain and dale
To the trumpet of steel and the drum of the rail;
And you couldn't sit down on a trolley car seat
And be jiggered and jerked through the length of the street;
And the glorious wheel, like a bird on the wing—
You had not even heard of the wonderful thing.
So I often have wondered and wish I could know,
If you ever went anywhere, how did you go?

GRANDFATHER.

(Moderato morando.)

Well, boy, I know
Old times were slow,
One trip this way,
Mid-week market day;
Go out, catch Bill,
Warm side of East Hill;
Hitch up. Take time.
Load up; cheese prime;
Eggs, fresh; butter sweet;
All packed, clean, neat.
Get in, sit square,
John here; Ruth there.
Good-bye; huddup, Bill!
Long road, up hill;
One hour, three miles;
John speaks, Ruth smiles.
Fresh breeze, pure air,
No coal smoke there.
Grass, green; mountain, high;
Cool brook runs by.
Road now runs down,
By and by reach town;
Sell produce; buy rice,
Tea, dress, nails, spice.
Start home, sun low,
Old Bill better go.
Cows milked, stars peep,
Soft bed, sweet sleep.
Slow times—but then,
Good women, strong men.

—New York Independent.

THE POPPY AND LIMITED EXPRESS.

The first train leaves at six p. m.
For the land where the poppy blows;
And mother dear is the engineer,
And the passenger laughs and crows.

The palace car is the mother's arms,
The whistle is a low sweet strain;
The passenger winks, and nods and blinks,
And goes to sleep on the train!

At eight p. m. the next train starts
For the poppy land afar;
The summons clear falls on the ear,
"All aboard for the sleeping car!"

But what is the fare to poppy land?
I hope it is not too dear;
The fare is this, a hug and a kiss,
And it's paid to the engineer!

So I ask of him who children took
On his knee in kindness great,
"Take charge, I pray, of the trains each day
That leave at six and eight."

"Keep watch of the passengers," thus I pray,
"For to me they are very dear;
And special ward, O gracious Lord,
O'er the gentle engineer.—Selected.

The Treason of Loyal Benham

(Continued from last week)

The next afternoon a group of officers waiting for their horses to be brought was gathered before headquarters. The general had been joking Capt. Crane about a sailor's proverbial fear of a horse, and, indeed, if there is a sight as laughable as a soldier trying to manage a boat, it is a sailor trying to manage a horse. Benham had no claims to fine horsemanship and saw with an inward qualm the horse assigned to him. It was a large, black war horse, powerful, and spirited, whose prancing and restlessness added to the fire in his eyes made every one give ample space to his hoofs. The sharp-eyed general guessed the young man's feelings. "Felton," he called to one of the younger officers, "change horses with Mr. Benham; that black beast looks dangerous."

Benham fell an apt victim to that foolish pride that refuses to grant that any one can excel ourselves in an accomplishment, a pride that blinds to all dangers by fear of a safety that seems humiliating. "Thank you, sir," he said, rather stiffly; "I think I can manage him."

"Well, be careful," advised the general. "He was captured in a skirmish yesterday, rider and all."

Benham mounted from the horse block and the cavalcade rode off. The horse had been so quiet since his bridle had been released by the groom that Benham regained confidence and began to pay less attention to his horsemanship and more to the conversation of his comrades.

The party were beyond the Federal pickets when a large house that had been partly burned attracted their attention. They rode in between the gateless posts, over a lawn littered by furniture that had been dragged out during the raid. A massive desk had been overthrown and broken into during the eager search for valuables; papers and letters thrown from its rifled drawers had blown about the grass. Benham saw among those papers a truant sheet ornamented with a crest; wondering if the crest were familiar to him he determined to secure the sheet. Knowing that if he dismounted his efforts to regain the saddle would be ungainly, he drew his sword, intending to spear the paper. Whether or not the horse thought the rasp of the sword was a signal to charge, Benham had no leisure to decide. With an alarmed snort the horse sprang forward like a steel spring suddenly uncoiling and sped up the road, presenting no less ludicrous a spectacle than Benham's embracing his steed's neck as desperately and as lovingly as did John Gilpin of mirthsome memory in a similar predicament.

Several officers at once gave chase, but the runaway's speed was not to be equaled, and the would-be rescuers soon became aware of a danger that forced them to unwittingly abandon the luckless Benham to his fate. The Confederate picket line was not two miles away. This painful fact forced itself upon Benham at once and it is to be feared that he swore roundly. The beast was going back to the rebel camp and would take him there. How they would laugh at him! To become a dweller in Libby prison was not a pleasant futurity, but to be carried within the enemy's lines like a bag of meal—to be the captive of a runaway horse! Benham feared the rebel's jeers more than their prison; be began to fumble blindly with the holster straps, determined to shoot the horse even if the fall broke his own neck. He could alread see the picket man pointing at him, could almost hear him shout to a gray clad comrade. His struggle with the holster flap almost cost him his seat, but at last he dragged out the loaded pistol. He was on the crest of a hill that suddenly dipped toward a deep hollow; the pickets were hidden from sight as the horse plunged down the hill. Benham had decided to shoot the horse when the hill was reached; he would then be out of sight of the pickets, with a better chance to escape them should he be hurt.

He put the muzzle of the pistol behind the horse's ear and was about to pull the trigger when a slight figure stepped from the roadside almost in front of the unmanageable horse. "Conqueror!" cried the girl's voice. The horse quivered and stopped so suddenly that Benham was almost thrown. With a low whinny of delighted recognition Conquerer ambled up to the girl and put his great nose on her shoulder; then Benham found found himself face to face with Phyllis Yorke.

"Good afternoon, Miss Yorke," he said. "Thank you for saving me from so humiliating a catastrophe. I suppose that I should send word that the couch prepared for me in Libby prison will lack an occupant."

He at once regretted the raillery, for he noticed that she was pale and grave; it seemed as if some final misfortune had at last overcome her courage.

"I am going to our camp to fetch home my brother, Richard; father is worse, and I fear that this is the end. Oh, sir! how does it happen that you are riding Richard's horse?" she asked, anxious lest more ill was to come.

Benham gently took her hand with a kindness that she could neither mistake nor resent. "I'll tell you all I know about your brother," he said. "though I wish you could learn it from any one but me. Gen. McClellan himself told me that this horse was captured with his rider in yesterday's skirmish."

Phyllis began to weep bitterly with the deep, hopeless sobs of a broken hearted child.

"Don't," begged Benham, helplessly; "please don't! I'll see if I can get you brother released on a parole; indeed I will, only don't cry."

"I am very selfish," she said; "it is dangerous for you to stay here. I can rely on your promise; for how cruel it would be if Richard should not be home if father"—a sob choked her.

The thud of hoofbeats muffled in the deep dust was heard and Benham knew that a party had come to his rescue in spite of the risk. Phyllis at once prepared to hide among the rank weeds and bushes of the roadside.

"Your brother will come home tonight, Miss York, I promise," said Benham, as, with a look of gratitude she stepped into the thicket.

The newcomers were three of McClellan's staff officers including Felton. In a twinkling Felton mounted Conqueror, while Benham took his rescuer's sweating horse, and they spurred back up the road at nearly as good a pace as Benham had come until increased distance from the Confederate pickets made speed less needful and conversation possible. When headquarters was reached Benham learned that McClellan had invited his guests to remain for supper. During the meal Benham was the target for no little chaffing, which he took good humoredly, telling how strangely the runaway had stopped, but, of course, saying nothing of the girl to whom he owed his liberty.

After evening parade, the senior officers withdrew to the general's private office for an evening to be spent at cards and wine. Benham racked his brains for a plan to fulfill his promise to Phyllis. He knew that now it would be impossible to demand an audience with McClellan. The younger officers were smoking on the veranda and Benham realized that the time was passing without any attempt to free Richard Yorke. At last fate was kind to Benham. "Let's go over to the guard house, Benham," suggested Felton; and call on the prisoners. There's one chap I know you'll like, a Capt. Yorke; he's won our respect by his sensible acceptance of his misfortune, so we're great friends, and every one does all he can to make things easy for him. By Jove! he owns the horse you rode this afternoon; he'll enjoy that joke."

Benham consented, with a carefully assumed carelessness. Ten minutes later they were in the guardhouse and Felton was introducing Benham to a tall, slight young man whose resemblance to Phyllis was so marked that Benham felt the ceremony of introduction to be quite superfluous.

"Let's go outside and smoke," said Felton; "it's stuffy in here."

"With your permission said the captain, smiling. The sentries made no protest at this breach of discipline as their prisoner passed them, for such a lapse was common, Capt. Yorke being often privileged by his friendly captors. Benham was formulating and abandoning plans so fast that he hardly heard Fenton telling of Conqueror's exploit. Their laugh was interrupted by an orderly. "Maj. Hall's compliments and would Mr. Felton come to his tent for a minute," was his message.

"I'll be back soon," Felton called as he followed the orderly.

"Quick!!" whispered Benham to the astonished captain. You must escape. I have seen your sister and your father is dying, perhaps. I promised that I would get you through the lines."

Yorke gave a muffled exclamation, then followed Benham as he ran through the darkness as quietly as possible. Now running madly, now hiding from observation, they passed through the camp safely. If Felton should return before they were nearer the pickets—Benham caught his breath at the thought; an indefinite time that seemed to the straining muscles of the runners like eternity, and then behind them they heard shots and cries.

"To alarm the pickets," gasped Benham. They were near the lines now. Suddenly a challenge rang through the darkness. "Who goes there? Halt!"

"Answer him," whispered Benham, "while I run on to draw his attention to me, and then perhaps you can slip past him."

"No!" cried Yorke.

"You shall! I gave her my word;" and Benham dashed on by the sentry.

"Halt!" commanded the man again, running toward Benham, and then firing after him without parley. Meanwhile Yorke had made his escape.

Half an hour later a party from headquarters found Benham lying unconscious a few rods from the picket line, wounded slightly but painfully in the shoulder. When he came to his wound was dressed and he was placed under arrest upon the charge of aiding a prisoner to escape. He stubbornly refused to explain to any one, though he knew he would be subject to court martial; the penalty might be death, at least the loss of his commission and dismissal from the service. He was miserable when he thought of the pain his disgrace would give his family; he almost hoped for death in preference to the shame that was harder to bear, but his heart exulted that he had kept his word to Phyllis in spite of the cost.

At the court martial his behavior was a baffling mystery to his friends. He again refused to explain, pleading guilty to the charge; he had nothing further to say. There was no wincing, no sign of shame when he heard his sentence, and he stood straight and tall between his guards, gazing fearlessly at the judge advocate as that official solemnly read:

"Loyal Benham, lieutenant of the United States navy, having been by his own assertion and by the finding of this court found guilty of treason in wilfully aiding and abetting a prisoner to escape, is hereby sentenced to lose his commission in the said navy, to be dishonorably dismissed from its service, and to be deprived of his epaulets and insignia of rank before his ship's company and the officers and men of the Army of the Patomac, to be assembled on the parade ground at Harrison's Landing at noon on the seventeenth day of July, 1862."

When the prisoner was taken back to his cell the judge advocate said: "Gentlemen, we have not yet seen the bottom of this affair; Mr. Benham's manner is not that of a guilty man."

On the morning appointed for Benham's degradation Capt. Crane was closeted with the general. The captain felt great repugnance for his part in the execution of the sentence, for as Benham's commanding officer it was Capt. Crane's duty to tear from the traitor's coat the insignia of his rank. The punishment was severe for even so flagrant a military offense, but in those stern days of war severity was practiced for the sake of example, as a warning to probable breakers of military laws.

The officers' talk was interrupted by the not unusual sound af a gallop-

ing horse stopping at the door. The orderly came in and said: "Capt. Yorke sir would like to see you, sir."

"Bring him in," said McClellan. Before Capt. Crane and his host could exchange more than glances the door opened to admit a tall, slender young man in a shabby uniform of Confederate gray. He saluted stiffly, waiting for the general to speak.

"You have come in to give yourself up, I suppose?" asked McClellan, crisply.

"Yes, sir," answered the captain.

"Why? Were you under parole not to return to your regiment?"

"No, sir, but I hoped that my return might save Mr. Benham——"

"Nothing, sir; his offense remains the same and he shall pay the penalty."

Capt. Yorke made no reply and the general continued: "You know the treatment due prisoners that have once escaped?"

Yorke bowed. The general tapped the bell, saying to the orderly who answered the summons: "Send for a guard to escort this man to the guardhouse. where he is to have an inner cell. He is also to be put in irons, tell the officer of the guard."

Five minutes later the heavy tramp of feet was heard in the hall; a soldier stepped to each side of Yorke, who again bowed.

"Right about face—march!" ordered the corporal, and Richard Yorke was marched away through the shimmering heat to his self-sought prison.

The midday sun seemed to center its rays upon the worn parade ground. There was scarcely a sound in the ranks as the men waited to see the humiliation of a comrade in arms. detailed for that duty, Benham was leaving his cell. As he stepped out into the sunshine he saw a tableau that made him stop like one turned to stone. A group composed of another prisoner and his guards stood near by. The prisoner was a slight young man, tall and pale, his wrists already in chains, and on his ankles a kneeling man was riveting more irons. Too late did the prisoner try to hide his face in his manacled hands. Benham's keen glance saw all. "Captain Dean! Captain Dean!" he cried, excitedly.

The captain of the guard stepped to his side. Lowering his voice, Benham pleaded earnestly: "Captain, by all you hold sacred, beg General McClellan to let me speak to him. That prisoner is not Capt. Yorke."

The earnestness of Benham's manner did not fail to impress Capt. Dean. As they marched on he said, "I'll do my best for you, sir," and he was as good as his word, for, after a brief conversation with the general, Capt. Dean returned, escorted Benham to the general, saluted, and retired out of earshot.

"Well, sir?" demanded McClellan, sternly.

"General, it is not Capt. Yorke that your men are fettering yonder, but his sister," said Benham quietly.

"What," cried McClellan. "What the"—— but his sentence remained unfinished for a new actor came upon the scene. A flushed, wild eyed man, white with dust and mounted on an old slant jawed mule, rode up to McClellan and Benham, "My sister?" Where is my sister?" he cried distractedly.

"Good God, he's a madman!" exclaimed the general.

"No, you are all mad, you cursed Yankees that can't tell a girl from a man. I'm Richard Yorke and I have come to give myself up. My sister stole my horse and my uniform and came here, personating me, because I was crazy with fever and couldn't come myself to save Loyal Benham."

"Miss Yorke is safe, captain," said Benham, putting his hand on Yorke's shoulder as he slid from the mule's hollow back.

The general swore an alleviating oath and rode off to the guardhouse; five minutes later he returned leading a horse, upon which sat the abashed personator of Richard Yorke.

"Benham," said McClellan mildly, "permit me to tell you that though you are a stubborn fool your service should be proud of you. Capt. Yorke, why didn't you ask me for a leave on parole to visit your father? I am not a brute sir. I wish, Miss Phyllis, that I had an enemy as interested in my welfare as you are in Mr. Benham's. Adjutant," he continued louder, "you may dismiss your battalions; I guess the execution of this sentence is indefinitely postponed. Benham, I shall expect you and Capt. Yorke and Miss Phyllis, if she will honor us, to dine with me at headquarters." And wheeling his horse, the general rode away, his staff following.

It was a jolly party that dined at headquarters. Phyllis was as charming in her own clothes as when masquerading as her brother, for Maj. Graham had thoughtfully unearthed from his closet some of her abandoned finery. Her exploit was the toast not alone of the officers' mess, for around the campfire her bravery was admired; even today the incident is remembered by the remnant of that glorious army of the Potomac.

Fate must have wearied of buffeting the Yorkes, as in spite of Richard's imprudence in defying his illness to return to captivity his inevtable relapse was brief and not severe. His father, too, was recovering, more slowly, but as surely.

The Yorke mansion, all ravages repaired, is now once more possessed by its owner. Richard Yorke is a prosperous attorney. Conqueror, old and stiff, again champs the oats of plenty in the stable that was once his master's prison. If a matrimonial argument arises between Capt. and Mrs. Loyal Benham the gentleman has but to say, "Capt. Yorke, I believe." This usually settles the matter, unless the lady saucily retorts, "It's a lovely day, dearie; do let me have Ned saddle Conquerer for you."

"No," laughs Benham, "let the shoemaker stick to his last."—Farmers' Sentinel.

HE'S A BRICK."

"He's a brick" is a favorite saying among the boys. It originated with the king of Sparta, who was showing an ambassador from Epirus over his capitol. The ambassador was surprised at finding no walls built for the defense of the town.

"Thou canst not have looked carefully," said the king. "Come with me tomorrow and I will show you the walls of Sparta."

The next day the king led his visitor to where his great army was drawn up in battle array, and said:

"There thou beholdest the walls of Sparta, and every man a brick."

HOW TO GET GOOD OUT OF BOOKS.

You should treat a book as you would a person with whom you are talking for information; that is, question it, read it over and turn back and try to get at the meaning; if the book itself does not answer the questions you raise, go to some other book, ask a dictionary or encyclopedia for an explanation. And if the book treated in this way does not teach you anything, or does not inspire you, it is of no more service to you than the conversation of a dull, ignorant person. I just used the word "inspire." You do not read all the books for facts or for information merely, but to be inspired, to have your thoughts lifted up to noble ideas, to have your sympathies touched, your ambition awakened to do some worthy or great thing, to become a man or a woman of character and consideration in the world. You read the story of a fine action or a heroic character—the death of Socrates, the voyage of Columbus, or the sacrifice of Nathan Hale, or such a poem as "The Lady of the Lake"—not for information only, but to create in you a higher ideal in life, and to give you sympathy with your fellows and with noble purposes. You cannot begin too young to have these ideals and these purposes, and therefore the best literature in the world is best for you to begin with. And you will find it the most interesting.—Charles Dudley Warner.

An artist in cooking is a woman who can get up a nice meal out of a small quantity of material. Any woman can get up a nice meal if she has everything to do with and a market to run to, to get anything she may want.

"Women feel where men think," said the female with the square chin.

"Yes," sighed the man who had been married three times; "that's why men become bald."

LEMON PIE.

Four eggs, one and a half cups sugar, two-thirds cup water, two table-spoons flour, one lemon. Beat the yolks of eggs until very smooth (beat the yolks a long time and whip the whites well), add the grated peel of lemon and the sugar, beat well and stir in the flour, and add the lemon juice, if the lemons are small two may be necessary, and lastly the water; stir well and pour in pie pans lined with paste. When baked take from oven, spread over them the whites of eggs beaten dry and smooth with four table-spoons pulverized sugar; return to oven and brown slightly. The above is the receipt for two pies.

* * *

COCOA-NUT PIE.

One pint milk, a cocoa-nut, tea-cup sugar, three eggs; grate cocoa-nut, mix with the yolks of eggs and sugar, stir in the milk, fill in the pan even full, and bake. Beat whites of eggs to froth, stirring in three table-spoons pulverized sugar, pour over pie and bake to a light brown. If prepared cocoa-nut is used, one heaping tea-cup is required.

* * *

PUMPKIN PIE.

Stew pumpkin, cut into small pieces, in half a pint of water; and, when soft, mash with potato masher very fine, let the water dry away, watching closely to prevent burning or scorching; for each pie take one well beaten egg, half a cup sugar, two tablespoons pumpkin, half a pint rich milk (a little cream will improve it), a little salt; stir well together, and season with cinnamon or nutmeg; bake with under crust in a hot oven. Some steam pumpkin instead of stewing it.

HOMELY HINTS.

One of the best and handiest things to clean bone, ivory or pearl knife handles is moist fine salt. Polish afterwards with a dry, soft cloth.

A few tablespoons of kerosene in a pail of warm water makes the washing of windows and mirrors a lighter task than if soap or any alkali is used.

Cake ought to rise to its full height before it begins to brown. This applies specially to sponge cake.

When you wish to keep boiled or baked potatoes warm for some time, lay a towel into a colander, wrap it snugly about the potatoes, covering them closely, and set inside a saucepan with a little water at the bottom kept just at the boil.

When making bags to put away silverware always use the unbleached material. Sulphur is used for bleaching, and its influence will quickly tarnish the silver.

A good thing for cleaning brass or copper is sweet oil and putty powder. Afterward, wash in hot water and soap, then polish.

Measure the amount of a gelatine or cream mixture before putting it in a mold, knowing how much the mold holds. Fill to the very brim, for it is almost impossible to turn a jelly from a mold when not perfectly full.

THE INEVITABLE.

I like the man who faces what he must
With step triumphant and a heart of cheer;
Who fights the daily battle without fear;
Sees his hopes fail, yet keeps unfaltering trust
That God is God; that somehow, true and just
His plans work for mortals. Not a tear
Is shed when fortune, which the world holds dear,
Falls from his grasp; better with love a crust
Than living in dishonor; envies not,
Nor loses faith in man; but does his best,
Nor even murmurs at his humbler lot,
But with a smile and word of hope gives zest
To every toiler. He alone is great
Who by a life heroic conquers fate.
—Sarah Knowles Bolton.

THE BEE'S EXAMPLE.

How doth the busy little bee
Improve each shining minute?
He jumps on every flower he sees,
And pumps for all that's it it.
Omaha World-Herald.

Miss Smart—Have you ever been through algebra?"

"Yes, but it was in the night and I didn't see much of the place."

It is only because the water works that the fountain plays.

Few men have weak eyes from looking on the bright side of life.

"Pa, what is a bigot?"

"A bigot, my son, is a person who doesn't think as I do and sticks to it."

Popping of lamp-chimneys is music to grocers.

MACBETH.

If you use a wrong chimney, you lose a good deal of both light and comfort, and waste a dollar or two a year a lamp on chimneys.

Do you want the Index? Write me.

MACBETH, Pittsburgh.

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Los Angeles Markets.

The Creamery Board of Trade still holds B. of T. at 60c, as it has for several weeks. The supply in the warehouse is extremely heavy, with seemingly no particular rise. There is, however, an exceptional demand for fresh stock.

Eggs show no material change since last week, but an increase is promised within a day or two.

Tomatoes have slightly advanced.

Fresh fruits of fine grades are readily picked up, with mediums not particular heavy call.

Potatoes are quoted practically the same as last week, but the market if anything is slightly weaker. Strawberries slow sale, and seem to show very poor keeping quality.

All poultry, especially chickens, are very scarce, and top quotations are readily commanded by choice stock.

Cantaloupes and watermelons are coming rather slow and the market is showing a tendency of stiffening.

Unbaled hay is being delivered in small quantities.

Wheat market is starting in very strong.

Barley steady.

Oats light receipt. Crops short.

Butter.

B. of T. Creamery, per 2lb roll		60
Dairy, do	52½	55
Cooking	20	22½

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	16	17
Swiss	13	
Imported		28

Eggs.

Fresh Ranch	.27	.28
Fresh Eastern	.24	.25
Store, case count	.24	.25

Potatoes.

Fancy Northern		1.25
Potatoes, local, per ctl		1.00
Sweet potatoes	2.50	3.00

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.75
Onions, yellow, cwt		1.10
Beets, per 100 lbs	.60	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chilles, green, per lb		.02
Peas, green, per lb		.01½
Lettuce, per sack	.25	
Radishes, doz. bunches	.15	

Fruits; Fresh.

White figs, 20 lb box		.50
Cantaloupes, crate		1.50
Watermelons, per doz	.50	1.50
Strawberries, box, fancy	.04	.06
Lemons, per box	.75	2.00
Oranges, seedlings	.75	1.00
Pears, fancy northern		.03
Limes, per 100	.90	1.25
Prunes, Hungarian, box 30 lbs		1.00
Peaches, per box	.25	.60
Northern Apples, 40 lbs	.50	.90
Local Apples, per box, 30 lbs		.40

Fruits; Dried.

Apricots	.05	.07
Pears	.07	.08
Peaches, per box	.40	.75
Northern Apples, 40 lbs	.80	1.10
Local apples, per bx 30 lbs	.25	.40

Poultry.

Spring chickens	.16	.17
Hens, No. 1 per lb	.13½	.14
Ducks, per lb	.11	.12
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	**4 00**	**5 00**

Hay and Grain.

Wheat hay	8.50	12.00
Barley hay		10.00
Alfalfa, large bales	10.00	12.00
Corn, Oct. delivery		1.35
Barley		1.00
Wheat	1.50	1.60
Oats	1.15	1.25
Corn, Cct. delivery		1.35

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.60
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75
Wheat		1.65
Chicken Cocoanut Meal		1.50

San Francisco Markets.

Dairy.

Butter is firmer. Market is very satisfactory to the seller. There has been about a cent advance in the past week and the general condition is such that nearly everything offered is picked up at once. That applies to the fancy grades. Poor stock as a rule begs for buyers. Storage still coming out.

BUTTER—Per lb:

Creamery, extras	29	
Creamery, good to fancy	26	@28
Dairy extras	24	@25
Dairy choice	21	@23
Store	18	20
Eastern Creamery	23	24

CHEESE—Per lb:

Cal. Creamery, mild new, extra	14	15
Cal. Creamery, mild new, choice	13½	@14
Young America	14	@15½
Eastern, New York Cream, Cheddars and flats, new	14½	@16

Eggs and Poultry.

Eggs likewise have taken an upward turn, being some better than a cent higher than last week, with everything cleaned up from the market that is offered. The bulk of the business as a rule is in storage lots which are being brought out. These are sold for full quotations. Fresh ranch, clean and even in color are instantly picked up at top quotations. Two carloads of Eastern poultry have arrived this week, largely of young stock. The local offerings are somewhat easier.

EGGS—Per doz:

Ranch, selected, large	33	@34
Ranch, good to choice	29	@32
Store	22½	@27½
Cold Storage	24	27
Eastern	19	@24

POULTRY—Old Roosters, per dozen, $4@5; young Roosters, $4.50@6; Fryers, $3@4; Broilers, large, $2.50@3.50; small, $2@2.50; Hens, $4@5.50; Ducks, per doz., old, $3@4; young, $3.50@4.50. Turkeys, nominal; Geese, per pair, $1.50; Goslings, $1.50@1.75; Pigeons, per doz., $1.50@1.75; do, old, $1.50.

Fruits and Vegetables.

The more desirable grades of deciduous fruits are not as plentiful as last week, and first class fruit demands top quotations quite readily. The ordinary quality of fruit is in abundance and has slow sales. Bartlett pears are in good request, quoted at $1.50. Canners are paying at the rate of $35 per ton. First class peaches sell well up to quotations. Freestones readily bring maximum and sometimes slightly above the market. Plums and prunes while not a drag are rather slow in demand. Pomegranates and nectarines are in limited demand. Watermelons are in abundance but sell close to the quoted price. Cantaloupes and nutmegs are steady. In grapes the demand is principally for the seedless, which sell at $.65 per box. Some carried over grapes sold as low as $20 to $30 per ton to wineries. Zinfandel wine grapes are quoted at $24 to $25 per ton. Strawberries are plentiful, some ordinary lots being picked up at 2½ cents. Blackberries are scarce and demand ready sale at top quotations though some ordinary were sold at two cents.

Potatoes are slow, receipts rather light, but there is rather a heavy supply on hand. Inquiry for shipment is slow. Sweet potatoes are plentiful and have declined materially in the last week.

APPLES—Per box, common to choice, 25@75c; fancy, 85c@$1.10; Crabapples, per box, 25@65c.

PEACHES—Per box, 35@75c; carriers, 40@65c; large open boxes, 60@75c; bulk, per ton, Clingstones, $20@25.

PEARS—Per box, No. 1 Bartlett, $1.25@1.50; common, 75c@$1; other varieties, per box, 40@60c.

PLUMS AND PRUNES.—Per box or crate, 25@60c; large open boxes, 40@75c; bulk, per ton, $20@25, as to variety.

FIGS—Per box, 75c@$1.

CANTALOUPES—Per crate, 60c@$1.

NUTMEG MELONS—Per box, 25@50c.

WATERMELONS—Per 100, $7@20.

GRAPES—Per small box, 25@65c; crate, 40@85c; large box, 65c@$1.25, as to variety.

NECTARINES—Per box or crate, 75@90c.

POMEGANATES—Per box, 65@85c.

QUINCES—Per box, 50@75c.

BERRIES—Per chest: Strawberries, Longworth, nominal; large varieties, $2.50@5; Blackberries, $3@5; Raspberries, $7@9; Huckleberries, per lb., 7@8c.

CITRUS FRUITS—Per box, repacked: Oranges, Valencias, $2@3; St. Michaels, $2@3; Seedlings and Mediterranean Sweets, nominal; Lemons, 75c@$2.50; Grape Fruit, $1@2; Limes, $4@4.50.

VEGETABLES—Asparagus, per box, nominal; Tomatoes, per box, river, 25@50c; do, bay, 30@75c; Green Peppers, per box, Bell, 25@40c; Chile, 25@40c; String Beans, per lb., 2@3c; Wax, 2@3c; Lima, per sack, $1@1.25; Green Peas, per lb., 3@4c; Egg Plant, per box, 35@50c; Summer Squash, per box, 25@40c; Cucumbers, per box, 25@40c; Garlic, per lb., 2@3c; Green Corn, per sack, 50c@$$1.25; crate, 50c@$1.50; Okra, per box, 25@35c; Marrowfat Squash, per ton, $10@12.50.

ONIONS—New Silver Skins, per ctl., 50@65c.

POTATOES—Per ctl.: River Burbanks, 60c@$1.25; Early Rose, 75c@$1; Garnet Chile, $1@1.15; Salinas Burbanks, $1.25@1.65; Sweet Potatoes, per lb., 1½@2c.

Dried Fruits, Nuts, Etc.

Asto dried fruit the Chronicle of this date says:

"The Dried Fruit market is buoyant under a vigorous demand for speculative purposes and the prevailing prices are strongly held and tend toward a higher level. The buying interest continues mainly centered in Peaches, Pears, Apricots and Apples, and holders are firm in their demands for full figures. Now that the reports of the over-estimation of the Prune yield are being verified, offferings are in higher favor, and many local brokers and jobbers predict improved values within the near future. There are still several dealers who closed early contracts short and it is quite likely when they make their efforts to cover, prices will advance. At present supplies are held well in hand at the top figures; and holders are showing some little indifference about parting with their stocks. Honey is in good supply and is meeting with a fair sale at the appearing figures. Trading in Nuts is still stagnant and values are largely nominal.

Quotations are:

APPLES—Evaporated, 5@6c.

APRICOTS—Royal, fancy, 9@9½c; choice, 7½@8½c; Moorparks, choice, 10@11c.

PEACHES—Choice, 5¼@6½c; fancy, 7@7½c.

PEARS—Choice, 5½@7c.

PRUNES—Four sizes, 60s to 100s, 2⅝@3c; 1902 crop, 2½@2¾c, with ½@1c premium for large sizes.

NECTARINES—White, 4@5c.

FIGS—White, 4½@5c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop: Loose Muscatels, 50-lb boxes, per lb., 2-crown, 5½c; 3-crown, 5¾c; 4-crown, 6c; Seedless, loose Muscatels, 5c; London Layers, 20-lb boxes, per box, 2-crown, $1.40; 3-crown, $1.50; fancy clusters, 4-crown, $2; Dehesa, 5-crown, $2.50; Imperials, 6-crown, $3. These prices are subject to change without notice. Seeded, f. o. b. at Fresno, per lb.: Fancy, 16 7¾c; 12 oz., 6¼c; bulk, 7½c; choice, 16 oz., 7½c; 12 oz., 6c; bulk, 7¼c.

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

HONEY—New Comb, per lb., White, 12@13c; Light Amber, 11@12c; Extracted Water White, 6@6½c; Light Amber, 5½@6c; Dark Amber, nominal.

BEESWAX—Per lb., 30c.

Live Stock.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin steers, 6½@7c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

4¼c, gross weight; Ewes, No. 1, 3⅝@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb; Hard grain-fed, weighing alive, 140 lbs and over, 5¾@6c; weighing under 130 lbs, 5¼@5½c; weighing 260 to 350 lbs, 5½c; rough heavy, 4½@5c.

Hay and Feed Stuffs.

HAY—Prices on new Hay, per ton: Wheat, $11@15; Wheat and Oat, $10@13; Oat, $9.50@$12.50; Barley, $8.50@11; Clover, $9@10; Alfalfa $9@11.50; Stock, $8@9.

STRAW—Good to choice, per bale, 45@60c.

FEED CORN MEAL—Choice grades, per ton, $33@34.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $27@29.

BRAN—Per ton, $23.50@24.50.

GROUND BARLEY—Per ton, $23@24.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $24.50@25.50.

CRACKED CORN—Choice quality, per ton, $33.50@34.50.

BARLEY—New crop: Choice, No. 1 Feed, $1.11¾@1.13¾; Shipping, $1.15@1.18¾; Brewing, No. 1, $1.20@1.25; Chevalier, $1.35@1.50.

OATS—Feed, good to choice White, $1.22½@1.32½; White Milling, $1.32½@1.37½; Red, $1.20@1.35; Black, $1.15@1.25 for Feed and $1.35@1.50 for Seed.

Beans—Prices per ctl; Large whites, $2.90@$3.10; small, do, $3.10@3.25; Pea, $3.40@3.50; Lima, $3.40@3.55; Red, $2.90; Pink, $3@3.10; Bayo, $3.40@3.65; Blackeyes, $2.75@3.10; Red Kidneys, nominal.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

COCOANUT CAKE—Best quality, in lots of ten tons and upward, $20 per ton; 5 tons, $20.50; small quantities, $21. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net Cash, Family Extras, $4.60@4 85 per bbl.; Bakers' Extras, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—New Crop: No. 1 shipping, per ctl., $1.45; choice, $1.47½; White Milling, good to choice, $1.50@1.60.

BARLEY—New crop: Choice No. 1 Feed, $1.10@1.12½; shipping, $1.13¾@1.18¾; Brewing, No. 1, $1.18¾@1.22½; Chevalier, $1.35@1.50.

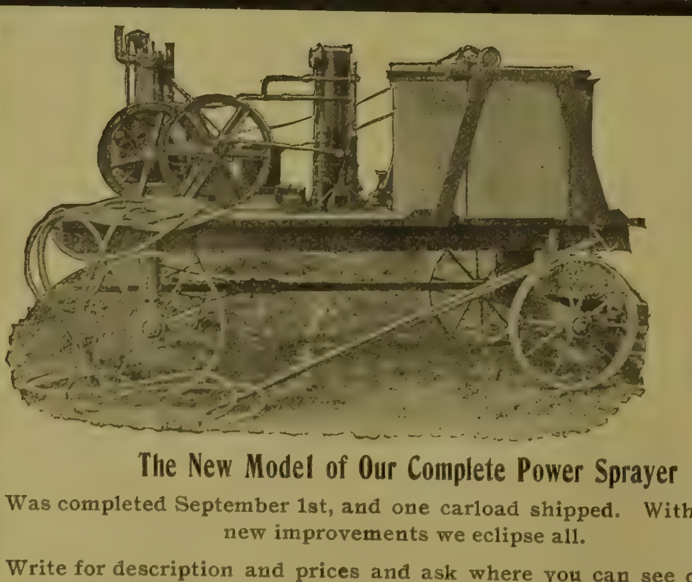
CORN—Good to choice, per ctl: California, new, large Yellow, $1.55@1.60; small, do, $1.75@1.80; white, $1.55@1.60.

RYE—Good to choice, per ctl: $1.20@1.25.

OATS—Feed, good to choice, White, $1.22½@$1.32½; White Milling, $1.32½@1.37½; Red, $1.15@1.32½; Black, $1.15@1.25 for feed and $1.30@1.40 for seed.

Hops.

The prices for new crop are 22½@23½c per lb, according to quality.



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Eastern Markets.

Grain and Produce.

CHICAGO, Sept. 2.—There was no selling pressure in wheat today until top prices were reached, 82c for September after starting at 80⅝@80⅞,and with December up to 83¼ from the opening at 82 to 82⅛. At that point there was some selling for outside account, and the close showed a net gain for September of 1c, at 81⅜@81½, with December up 1 to 1⅛ at 82⅞@83. There was but little corn offered for sale. A general demand developed with traders, and the close showed September up ⅞ at 52⅝, after starting at 51⅝@52, and selling up to 52⅞. December closed ⅞c higher, at 51⅝. Oats were active and strong. September closed ⅝c higher at 35½, and December ⅜ to ½c better, at 33¾@33⅞.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 85@87; No. 3, 80@84; No. 2 red, 80⅝@81¾; No. 2 corn, 52½; No. 2 yellow, 53¼; No. 2 oats, 34; No. 3 white, 36@38; No. 2 rye, 52@52⅝; good feeding barley, 48@49; fair to choice malting, 52@60.

New York General Market.

NEW YORK, Sept. 2.—Wheat—Spot firm; options closed firm at 1 to ½c net advance. May closed 89⅜; September closed 88⅝; December closed 88⅜. Hides firm. Hops firm. Pertoleum steady. Wool quiet. Coffee, spot Rio quiet. Sugar, raw firm; refined firm.

Grain Movements.

Articles.	Receipts.	Shipments.
Flour, barrels	31,000	21,700
Wheat, bushels	153,400	11,700
Corn, bushels	443,100	283,000
Oats, bushels	259,750	171,400
Rye, bushels	85,000	......
Barley, bushels	47,300	900

On the Produce Exchange today the butter market was steady; creameries, 14@19; dairies, 13@17; eggs, firm at mark, 14½@17½; cheese, firm, 9½@11⅛.

LIVERPOOL GRAIN.

LIVERPOOL, Sept. 2.—Close—Wheat, September, 6s 6¾d; October, 6s@6⅝; December, 6s 6d.

Chicago Live Stock.

CHICAGO, Sept. 2.—Cattle—Receipts, 22,000; steady to strong; good to prime steers, 5.35@6.10; poor to medium, 4.00@5.25; stockers and feeders, 2.50@4.30; cows, 1.50@4.50; heifers, 2.00@5.00; canners, 1.50@2.60; bulls, 2.00@4.50; calves, 3.50@7.00;; Texas-fed steers, 3.25@4.50; western steers, 3.25@4.45. Hogs—Receipts today, 25,000; tomorrow, 28,000; steady; mixed and butchers', 5.20@5.85; good to choice heavy, 5.35@5.70; rough heavy, 5.50@5.80; light, 5.40@6.05; bulk of sales, 5.20@5.60. Sheep—Receipts, 30,000; sheep and lambs steady; good to choice wethers, 3.10@4.85; fair to choice mixed, 2.25@3.00; western sheep, 2.75@4.10; native lambs, 3.50@6.00; western lambs, 4.00@5.10.

California Dried Fruits.

NEW YORK, Sept. 2.—The market for evaporated apples is more or less unchanged; common, 4@5; prime, 5¼@5¾; choice, 6@6½; fancy, 6¾@7½. Spot prunes remain steady to firm at from 3¼@7c for all grades. Apricots firm; new crop, choice, 9¼@9⅝; extra choice, 9⅜@10⅛; fancy, 11⅛@11⅝. Peaches are firm; choice, 7½@7¾; extra choice, 8.

CITRUS MARKETS

ORANGE AND LEMON MARKET.

The markets during the past week have been quiet; the supply at auction markets has been equal to all requirements and prices have ruled low on account of large quantities of deciduous fruits and poor quality of many of the orange going into these markets. The demand at this season of the year is for fancy fruit, and the quality of fruit has not been such as to supply the needs or attract the trade. The quantity in sight is slightly decreasing under the influence of lighter shipments from California and few diversions from western points. The Western markets have been quiet, taking but a small quantity of fruit. The light shipments going forward have been quite sufficient for all demands. The average shipments of eight or ten cars a day should, however, meet with fairly satisfactory prices.

The lemon market has improved somewhat, old stock having been cleaned up and there is quite a fair demand for Californias, especially 300 size, fancy and extra choice grades. The shipments have been light and a fair demand exists for all desirable cars in sight. Off sizes and poor keepers are not wanted.

Shipments of citrus fruits from Southern California for the season, from November 1, 1902, to date, are 21,772 carloads, of which number 2558 carloads are lemons.

AUCTION SALES.

NEW YORK, AUGUST 26.

A. H. Fr. Co., Artesia Valencias, $2.20. Squirrel, $1.95. Palm Tree, 30 per cent decay, $1.25.

Riverside Fr. Ex., La Mesa Valencias, $3.10. Golden Rule, $2.60.

BOSTON, AUGUST 26.

Market weak.

C. C.U., Corona, Excelsior Valencias, $2.55.

C. C. U., Riverside, Seal sweets, $1.35. Daisy, $1.20. Daisy Mikes, $2.

PHILADELPHIA, AUGUST 26.

Market strong on Valencias.

D. M. Fr. Ex., Violet Valencias, $2.70.

C. C. U., Mosgrove, Clematis Valencias, $1.50.

PITTSBURG, AUGUST 26.

Market steady.

A. C. G. Fr. Ex., Red Shield Valencias, $3.60; Green Crown, $2.50.

A. C. G. Fr. Ex., Pointer Valencias, $3.40. Hunter, $2.05.

CINCINNATI, AUGUST 26.

Market weak.

S. F. Fr. Ex., Choice Valencias, $1.95.

CLEVELAND, AUGUST 26.

Market steady.

Riverside Fr. Ex., Uncle Sam seeds, $1.35. Fiesta seeds, $1.50. Orchard Run sweets, $1.50.

NEW YORK, AUGUST 27.

Riverside Fr. Ex., La Mesa Valencias, $3. Golden Rule, $2.75.

NEW ORLEANS, AUGUST 27.

Covina Fr. Ex., Holly Valencias, $2.45.

BOSTON, AUGUST 27.

Market weak.

Riverside Fr. Ex., Blue Print Valeneias, $3.05. Red Print, $2.15.

NEW YORK, AUGUST 28.

Covina Fr. Ex., Orchard Run Valencias, $2.05.

PHILADELPHIA, AUGUST 28.

Market steady.

C. C. U., Covina, Sapphire Valencias, $2.45. Amethyst Valencias, $2.

BOSTON, AUGUST 28.

Market weak.

C. C. U., Whittier, Victory Valencias, $2.15. Arbutus, $1.85.

PITTSBURG, AUGUST 28.

Market steady.

C. C. U., Covina, Amethyst Valencias, $2.40.

CLEVELAND, AUGUST 28.

Market steady.

A. C. G. Fr. Ex., Pointer Valencias, $2.30. Hunter Valencias, $1.70.

NEW YORK, AUGUST 31.

A. C. G. Fr. Ex., Blue Seal Valencias, $4.20. Red Shield Valencias, $2.70.

BOSTON, AUGUST 31.

Market steady.

C. C. U., Fullerton, Victory Valencias, $2.30.

PITTSBURG, AUGUST 31.

Market steady.

C. C. U., Covina, Sapphire Valencias, $2.35.

CLEVELAND, AUGUST 31.

Market steady.

D. M. Fr. Ex., Iris Valencias, $3. Violet, $2.35. Primrose, $1.45.

RAISIN PRICES.

Prices so far fixed by the California Raisin Growers' Association for the coming crop are as follows: Two-crown, 6 cents per pound; three-crown, 6¼ cents; four-crown, 6¾. The above prices are for raisins packed in fifty-pound boxes, f.ob. to a common shipping point. These prices, it is estimated, will net the growers five cents in the sweat boxes. A few local growers have already sold outside the association for 3¾ cents and better.

These are the highest prices ever named on raisins.

Last year within two weeks over $12,000,000 worth of timber and other property was destroyed by forest fires in Oregon and Washington. This enormous loss occurred upon a restricted area and represents only a very small part of the annual loss from this source. Every timbered region of the United States suffers year after year from fire. The annual loss is estimated at from $25,000,000 to $50,000,000. Forest fires have been regarded as almost inevitable, and few systematic attempts have been made to prevent or control them.

This country supplies five-sixths of the cotton used in British mills.

Pomona cannery pays out about $1700 per week for the pay roll.

The Wickson plum is selling this year in the east for more than any other plum.

The Santa Rosa Cannery has put in a new cooker and Climax Automatic Capper.

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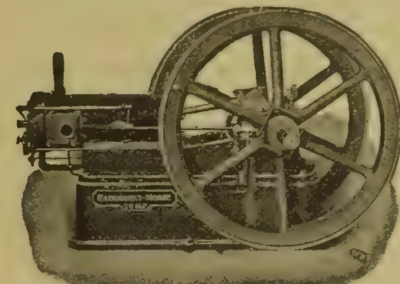

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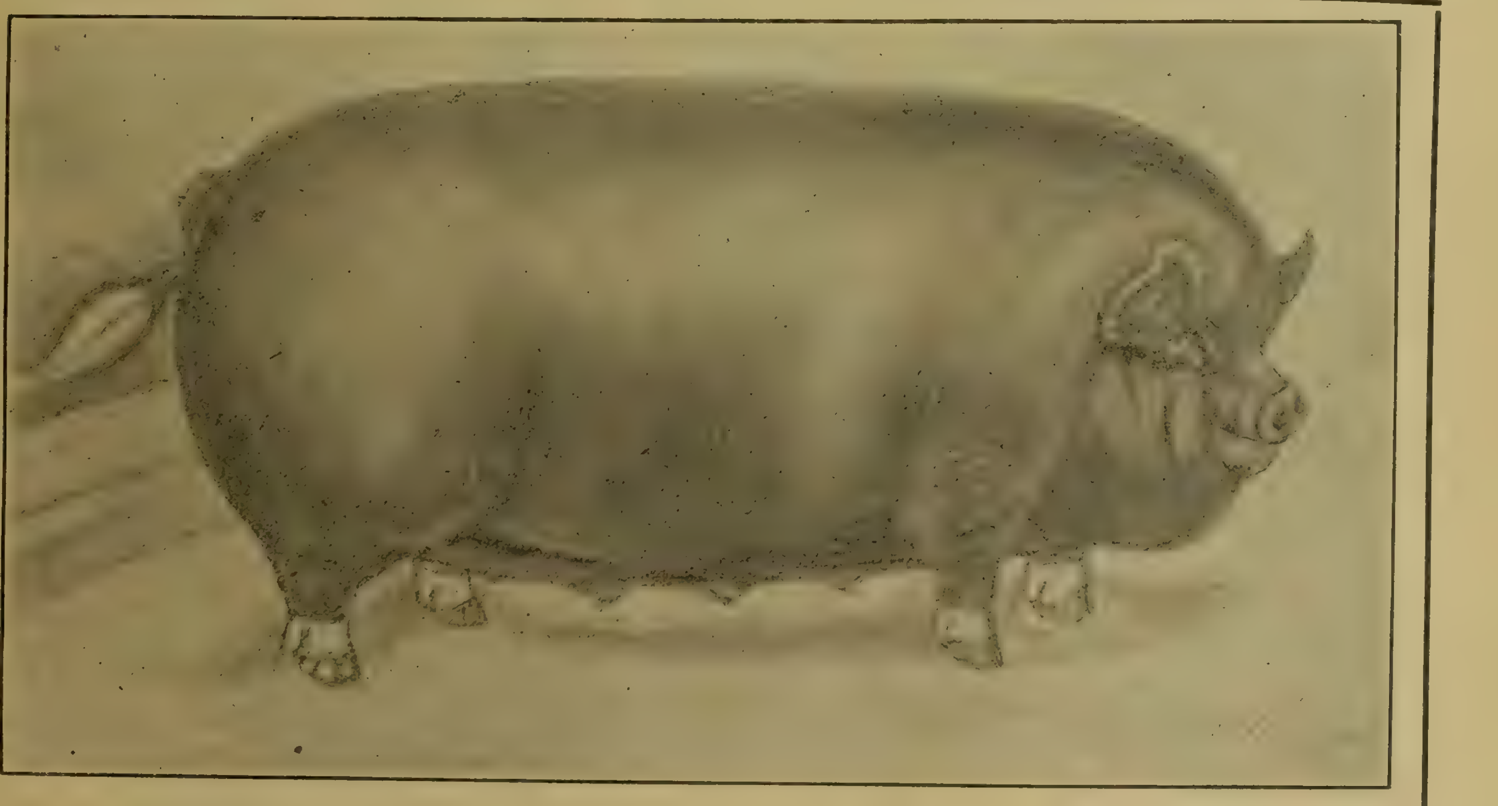

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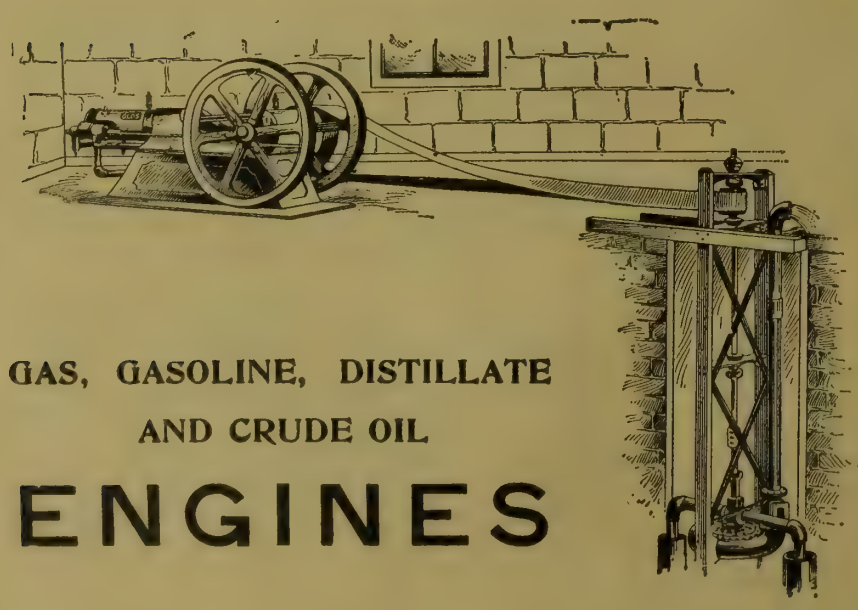

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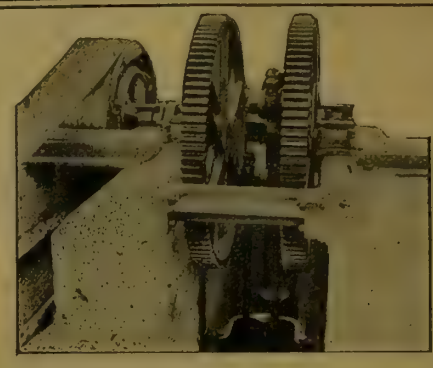

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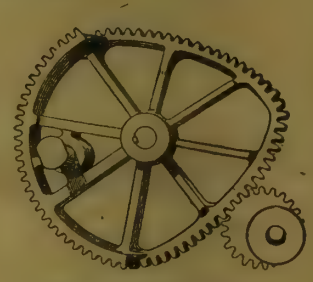

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Vol. XXI—No. 11 LOS ANGELES, CAL., FRIDAY, SEPTEMBER 11, 1903 Subscription $1 a Year

The California Peach-Root Borer

While in Sacramento last week, we came in contact with E. M. Ehrhorn, Entomologist of Santa Clara county, and found that he was making an extensive study in the State Library, of the peach root borer. Mr. Ehrhorn has been noted as one of our closest students of insect life, and has turned his information to good account in helping the fruit growers of Santa Clara valley to eradicate the various pests of the orchards and vineyards.

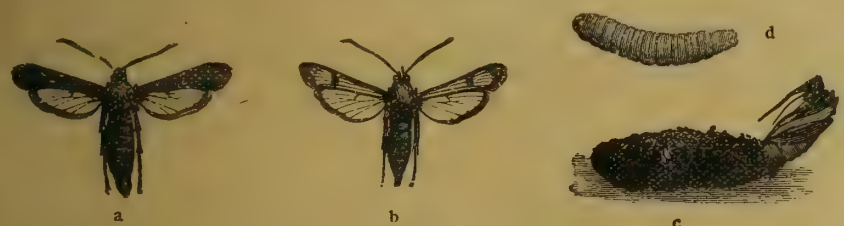
The peach root borer (Sanninoidea opalescens) is a native of California, which is contrary to the case with most of the injurious insects of the state, and the borer is different from that of the species which does considerable damage to the peach orchards of the East. If the pest is a native of this state, it is entirely probable that it has a natural insect enemy which must prey upon it in the immediate neighborhood where it originated. Whether the natural enemy can be discovered and made of use to the orchardists remains to be seen, but if it can be, it will be a means of vast saving of the peach trees of the state.

It is only since 1888 that this pest has been known to injure the peach. Doubtless it was engaged in the work long before that, but its work was not sufficiently wide spread that it attracted attention.

The moth is seldon seen and the habits of larva and pupa are but little known.

Owing to the fact that the present time is the best season of the year for fighting this pest, we give this week some quotations from Mr. Ehrhorn's report on this pest, which is illustrated with cuts used by the courtesy of the State Board of Horticulture.

"Egg.—The egg is very minute, not exceeding ¼ mm. in length, oval, light brown in color, and, when seen through a lens, ornamented with hexagonal sculpturing. The eggs are deposited on the bark of the tree, at or near the surface of the ground; rarely they are laid high up on the trunk or even in the crotches of the tree.



a b c d

FIG. 1. Peach-Root Borer. (a) Female. (b) Male. (c) Pupa, (d) Larva.

"Larva.—The larva, on hatching, are very active and immediately burrow into the tree, generally entering the cracks in the bark at or below the surface of the ground. Here they remain, constantly feeding on the bark, at first near the surface, surrounding themselves with gum, or coagulated sap, and gradually enter the sapwood, enlarging their burrows as they increase in size. The full-grown larva (Fig. 1 d) is a pale yellow, about one inch long, tapering, with a brown head. After attaining its growth, the borer ascends in the burrow to or above the surface of the ground, as the case may be, and begins to spin a cocoon.

"The Cocoon.—This is made up of a silken web mixed with castings and earth glued together, and is of a brown color, from 1¼ to 1½ inches long. (Fig. 1, c.)

"Pupa.—The pupa within the cocoon is shiny, light brown, with numerous spines on the abdomen. When about to emerge the pupa is pushed out of the cocoon, as in Fig 1, c, and soon the adult moth emerges.

"The Moth.—To the novice this insect would appear more like a blue wasp than a moth. The female (Fig. 1, a) differs so much from the male (Fig. 1, b) that they might be taken for two distinct species. The female has bluish-black, opaque front wings, while the hind wings are transparent, like those of a wasp; the margin of both wings has a bluish-black fringe; antennae, head, thorax,and abdomen are very dark steel blue, almost black; wing expanse, 1½ inches. The male (Fig. 1, b) has forewings nearly transparent, with upper margin and tips black; hind wings are transparent, like those of female; the body is bluish-black; the abdomen is much narrower than that of female and more elongated; legs are black, with yellow tufts on femur and tibia; wing expanse, 1¼ inches.

"This insect differs very much in looks from the eastern peach root borer.

"The food plants of the California peach-root borer, when first discovered, were the peach and cherry root, but it will attack peach, almond, apricot, cherry and plum roots, although the plum root (Myrobalan) is not so badly attacked as the others.

"In regard to the development of the insect, from the egg to the adult, we are as yet somewhat in the dark. The Eastern species requires one year to complete its life circle. I believe the California species does the same, but our climatic conditions and the variety of food have caused the insect to have several broods.

"This pest spreads in various ways, but probably the most common method is in the transportation of infested nursery stock. It behooves the grower to be very particular in this respect, and those who are planting peach, plum, prune, apricot, almond, or cherry trees, should examine all trees carefully before planting, for if once the pest gets a foothold in a new locality it will soon spread, at first very slowly, but fast enough to cause great expense and much annoyance. This spreading is done by the female, which is very active and flies readily and swiftly, but does not fly a very long distance.

"The Peach-root Borer's Life.—This insect, like most other insects, begins life as an egg. These eggs the female lays probably in a few hours after copulation, and they are laid singly and in groups, in all sorts of places, at or near the surface of the ground on the bark of the tree. A female moth may lay from two hundred to five hundred eggs, but fortunately not all hatch, many perishing through some cause or other. In the Eastern states it is claimed that the young larva hatches in from eight to ten days after egg-laying. In California this has not yet been observed, but probably it takes about the same time, although I believe that climatic conditions have a great deal to do with the length of time.

FIG. 2. Work of a single borer in a peach tree; natural size; (w b) burrow of borer; (g) gummy mass; (p) pupa projecting from cocoon. (After Slingerland.)

"The young borer begins feeding from the outside bark, generally starting in minute cracks, and gradually works its way to the sapwood where it increases in growth and makes its burrow. Here it remains for from ten to eleven months, doing great damage to the bark, and when numerous larva are present, often causing the death of the tree. Large quantities of gum collect on the bark about the burrows, and this is a sure indication that the pest is present. During the cold winter months the larvae do not grow much, but as soon as the sap begins to flow, they grow rapidly and soon attain their mature state. They then begin to ascend in the burrow and get near or above the surface line and spin the cocoon, which is still hidden in the burrow or under a piece of dead, loose bark. Before the larva makes a cocoon it bores an exit in the bark, near which it starts to spin. Soon the larva turns to a pupa within the cocoon, and, depending on climatic conditions, remains dormant for from ten days to four weeks. When the pupa is mature, it moves itself, by the aid of the spines on the abdomen, out of the cocoon enough to project half its length (Fig. 1, c) so as to allow the moth, which is very delicate, to emerge without difficulty. The moth soon bursts through the pupa skin, which splits down the center of the back for a short distance. After carefully drawing out its legs and by aid of these its body, it may crawl a short distance and rest until its wings expand and dry. It is then ready to fly off and find its mate. After mating, the female soon lays the eggs, as stated above, and its life circle is completed. It is very easy to tell whether or not the moth of the peach-root borer has hatched in the orchard by the empty projecting pupa skins. (Fig. 2, p.)

Methods of Destroying the Pest.—As the larva or borer (Fig. 1, d) presents the most vulnerable stage of the insect's life, the most successful attack is made at this stage. The methods for fighting it are twofold, viz.: preventive and destructive. In discussing these methods it will be well for us to begin with the latter. The destructive measures used against the borer are either the tedious way of digging it out with a knife or chisel or with an especially made instrument (Fig. 3), or by use of strong washes applied to the trunk and roots below ground, or by the fumes of carbon bisulphide.

"The Digging-out or Worming Method.—The digging-out or worming method is no doubt the surest way to know that the borers are killed, provided that good conscientious workers can be had. The best time to do the work is in November or December. The soil, which should be moist enough to crumble, is removed from around the tree and the bark scraped free from all clinging materials, such as gum and earth. With a knife or chisel, or, still better, the regular tool (Fig. 3), composed of hook, scraper, and chisel, the search for the borer is made. First find a channel and follow it up or down, using the hook, and locate the borer. Make a thorough search for every one until you are satisfied that all borers are out of the tree. Care should be exercised not to take too much bark off—only necessary quantity to get the borers out. The trees may be left open for a few days, especially if moist weather prevails, and then can be covered up until spring, when some preventive may be used. Some growers have dug for borers twice a year, generally in May or June, with good results. Shallow-rooted trees are attacked more severely than trees planted deep; and trees with root-

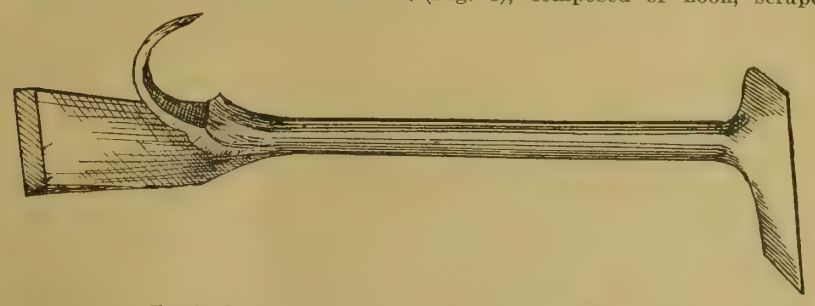


FIG. 3 Instrument for digging out peach-root borers.

(Continued on Page 184.)

CALIFORNIA CULTIVATOR

ESTABLISHED 1889
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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J. A. W. GATES. Northern Representative

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 11, 1903

Circulation this issue 8,600

APPLE GROWERS' ASSOCIATION.

A meeting of the members of the Apple Growers' Association of Los Angeles county, will be held at room A in the Court House at Los Angeles on Saturday, September 19, at 10 a. m.

The programme will consist of a paper and discussion on "Harvesting the Apple Crop," better methods of picking and packing and the relation that these methods may have upon the keeping qualities of the fruit.

FRED'K MASKEW, Secy.

THE STOCK PARADE.

The cattle parade at the State Fair last Saturday was an attractive and instructive feature. It had in it a lesson as to the possible future of the live stock industry of the state. It indicated the great development which we believe is coming. The Almo herd of Governor Sparks of Nevada is an example of what careful breeding can do for Herefords. The Chowchilla stock farm and Joe Marzen of Lovelock, both had magnificent exhibits of Shorthorns. N. A. Chisholm led out some fine Jerseys, and of Holsteins Mrs. Gubbay and Mrs. Burke of San Jose, both made fine exhibits. In horses some of the most magnificent Percherons, French Perchrons, coach horses, roadsters, and on down to Shetland ponies, were exhibited.

While there was some disappointemnt as to the interest, or rather lack of interest, manifested on the part of the farmer, yet there is much of encouragement in this year's fair. It was universally conceded to be the best stock exhibit in many years, and while the bookmaker was one of the principal features on the fair grounds, yet the exhibit of stock was such that there is proimse of great good.

We hope next week to give a number of illustrations of the stock exhibited at the present state fair, photographs of which were taken by the Cultivator photographer. There is no question that there was some beautiful stock exhibited.

THE GAMBLER AT THE FAIR.

For a few moments last Saturday the writer mingled with the gambler, the book maker and the beer seller at our State Agricultural Fair. Prior to that few moments a good full day had been spent in looking at some as fine stock as was ever gathered in this state of Herefords, Shorthorns, Jerseys, Holsteins and many other cattle. Percherons, Clydes, French coach, runners and trotters; and a long list of pure bred swine and sheep. It was an eye-opener as to the resources and the live stock development of the state. It was a genuine pleasure. But to stand and watch the faces of the jostling crowd about the book-makers stands, one can not help but ask "are these agriculturists and is it for this that the state appropriates money?" There were some faces like that of the typical tough with blear eyes and swollen face, others less so, and many faces, which indicated a degree of refinement, but no agriculturist.

It is a pleasure, it is an inspiration, to witness a test of strength or of speed in horses. The rivalry it has inspired has given the two minute, instead of the three minute horse and the Percheron and other magnificent draft animal instead of the scrub. Yet the odium which has become attached to a test of speed in horses is such that a man of ordinary sensitiveness, and who is usually truthful along other lines, will instantly and emphatically lie, rather than to admit that he was at a "horse race."

Just such scenes as that at this fair is responsible for this feeling.

It is claimed that a fair is not a success without this element to make it so. But in California it has been fully tested and after years of failure the state was compelled to liquidate $45,000 deficit. This year the promise was for an agricultural fair. It was partially fulfilled. In face of the total failure of the former management, it will be wise if the tax payers will insist that an exhibition of the state's resources be given as thorough and complete a test as that of the "fairs" of the past.

This is not written from the standpoint of the moralist but as purely business matter in which we believe the tax payers do not wish to appropriate funds to support practices which are made criminal in many cities in this state.

CALIFORNIA PURE LIVE STOCK ASSOCIATION.

One good result of the State Fair this year which will doubtless prove of far-reaching good was the formation of an association whose object "shall be to foster and encourage the improvement of live stock, to secure large and meritorious exhibits of pure live stock at the state fairs and to hold pure-bred live stock exhibition at such times and places as the Board of Managers shall select."

The preliminary meeting of the live stock breeders who felt the necessity of some such move, if the campaign for education is to be made as to the merits of pure-bred stock, was held in the Golden Eagle Hotel on last Saturday evening. General discussion of the needs of such an organization was had, and without dissent it was determined that the breeders should stand together in this matter. The promoters are E. W. Howard, Dr. C. H. Blemer, State Veterinarian, N. A. Chisnolm, Jas. Whittaker, Isaac Bird, Chas D. Pierce, and many other representative breeders.

On Monday evening a much larger meeting was held in the Directors' room of the State Fair Association, when a large number of stock breeders from all parts of the state entered heartily into the permanent organization of the association. Breeders of all classes of beef and dairy cattle, draft horses, carriage horses, hogs and sheep were represented in the men who entered into this organization. E. W. Howard of San Mateo was elected president, and N. A. Chisholm of Jacinto, secretary. The president was empowered to appoint directors who shall hold office for one year. The following committee of five were elected on by-laws and constitution: Fred H. Burke of San Francisco (chairman), Judge Peter J. Shields, Guy H. Miller of Riverside, Isaac Bird of Merced, and Prof. E. W. Major of the University of California.

CHIEF FORESTER.

Last week Gifford Pinchot, chief forester for the U. S. Government, visited Los Angeles for the second time and met with a very enthusiastic reception. Mr. Pinchot stated at a public meeting held in the Chamber of Commerce that he met with a better reception in Southern California than in any part of the Union. This is due, he said, to the fact that our people are more fully alive to the importance of forestry as it affects water supply. "In the San Gabriel valley, for instance, the water is being pumped from a supply which has taken hundreds of years to accumulate The time will doubtless come when this will be exhausted and the people will have to depend entirely on the annual rainfall, which must be stored in reservoirs and saved in every possible way."

Almost every one is aware how much the Forestry Bureau can do for us in the matter of water supply and their work is largely along three lines: First, preventing forest fires; secondly, replanting burned over tracts and lastly to plant bare hills and mountains with suitable trees and shrubs.

Speeches were made by several persons who have made the subject a special study and among the happiest was one by Abbot Kinney of Los Angeles; he seemed to be thoroughly acquainted with the minutest details of the work and his speech met with hearty applause by those present and was later favorably commented upon by Mr. Pinchot. His talk brought out the fact that our immense San Gabriel Forest Reserve had no roads running through it and comparatively few trails leading in. All the trails are private rights of way and as the living of the owners depend upon forest preservation, they are all deeply interested in the work. Mr. Kinney proposed placing in the hands of such persons books of permits which they would issue free to all applicants. In this way all persons who entered the reserve could be traced, as to time, route, etc., and those who left fires burning be quickly brought to the bar of justice.

Mr. Pinchot stated that Ralph S. Hosmer, of the Bureau of Forestry, with headquarters at Pasadena, was stationed in the local field, with a corps of able assistants and would, before winter sets in, have made a thorough investigation and study of all local forestry matters and that in the near future we should see and hear much more from their bureau. Mr. Pinchot further stated that, in his opinion, the U. S. Government would have to buy back forest lands at an enormous expense, and advocated the awakening of public interest in the subject that some action might be taken by the government while the lands could be procured at a nominal price.

The meeting was attended by many of Southern California's most prominent citizens and the interest was at least a hundred fold that manifested upon the occasion of Mr. Pinchot's last visit to this city.

IRRIGATION CONGRESS.

The Irrigation Congress will convene at Ogden next Tuesday morning. It is said that the exhibits of results of irrigation is bringing together a display which is worthy a State fair. Amongst the things offered are four 22-pound solid silver cups, valued at $500 each, offered for the best exhibit of fruit, hops, barley, and sugar beets besides these many smaller prizes.

Governors of five states will be present and many of the most representative men of the West.

Referring again to the item which appeared in the issue of a few weeks ago regarding the magnificent showing of American poultry of the Australian egg laying contest, we wish to give credit to the Petaluma Incubator Company for their work in gathering and forwarding the pens from which these birds were chosen. The Incubator Company was at much expense in gathering these fowls and only their interest in the American fowl impeled them to make the exhibit.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

GLOATING TRADES JOURNALS.

As might have been expected, the New York Journals representing the fruit commission merchants, have lost no time in spreading the news of the withdrawal of the San Bernardino County Fruit Exchange from the parent organization, and a Northern California fruit journal helps to spread waht it evidently considers glad tidings of the breaking up of the Exchange. Each of these trade journals, whose advertising columns teem with the advertisements of the commission merchants, comment editorially upon the alleged disruption of the co-operative marketing plan as if it were a sweet morsel rolled under the editorial tongue. One of these trades papers is the official organ of the "National League of Commission Merchants of the United States," and is not expected to champion in this case the growers' cause, or to support broadly the principles of co-operation that have knocked the spots off the commission men who formerly sold the oranges of California. We scarcely expected to see a San Francisco fruit paper, published ostensibly in the interest of the fruit producers of the state, brazenly rejoice at the prospective dissolution of the co-operative plan and advocate turning the citrus crop back to the tender mercies of the commission men. But these organs of the commission graft must earn their pay, and we cannot criticize them for obeying their masters. Rather should the orchardist learn, from these leading anti-co-operative editorials, bleeding in every line with commiseration for the commission-man-out-of-a-job, that the first break in the ranks of the growers will be the signal for a snake dance among the subservient trades journals.

But here occurs just a little damper upon the glee of the commission merchants' organs. The "facts" upon which the editorial cannon were planted turn out to be not facts at all, but the purest of fiction, for the San Bernardino County Fruit Exchange has returned to the fold, or, rather, failed to leave the fold. Ere the ink was dry upon the excellent editorials the Exchange was making arrangements to market, in connection with the Citrus Union, 90 or 95 per cent of the oranges of California, including every box under control of the San Bernardino Exchange.

Our opponents have peaked forth their exultations too soon for their own credit. To be placed in such a ridiculous light as rejoicing over the misfortune of the great body of orange growers and then find that there has been no ill fortune of disintegration befalling them is indeed humiliating. But the newspapers in question have not sustained this humiliation alone. There are scores of commission merchants who will be sorry to learn the truth about the matter, and will curse their organs for premature announcements that raised the hopes of the dealers to the point of almost feeling the cold coin that would accrue to them as handlers of California citrus fruits. There are also a few local growers whose hopes of a "scrap" are blasted by the action of the San Bernardino county co-operators, and perhaps a great many broken down speculators, jobbers and hangers-on to the local trade whose methods long since relegated them to the rear. But the great mass of citrus fruit growers are rejoicing today that co-operation is now more firmly seated than it has ever been before, for the late ripple has demonstrated that the producers cannot be stampeded or persuaded to let their mutual organization perish, or even become weakened in the face of the terrible odds the trade would be able to array against the individual grower should he ever have to stand alone. So let the scare-head titles to those editorials, "A Break in the ranks," and "Discontent Among the Citrus Growers," be set aside for the auspicious occasion which all believers in co-operative effort hope will never come.

GENERAL NEWS NOTES.

The grape crop in Western New York is reported to be less than 40 per cent of a full crop. This is the nearest to a failure that region has ever experienced.

The American Sugar Refining Company has for some time been quietly buying up stock of the various sugar factories. They have now secured the control of nine which will soon be put under one management.

The Montana State Agricultural College believe they have solved the grasshopper plague. They recently distributed among the ranchers a poisonous fungus which literally exterminated millions of grasshoppers.

The bureau of forestry has begun the task of creating a forest on the barren sand hills of Nebraska. An experimental sowing of 100 acres with red cedar and jack pine will be made this year and if successful an additional 1000 acres will be seeded next year.

England has issued a patent to a gentleman who has discovered how to manufacture silk from wood. Experts only can distinguish the fabric from genuine silk. It weaves nicely and takes coloring readily. Any kind of solid wood can be used.

German bidders were awarded the contract for the supply of thirty locomotives for the Japan railways. American bids were 20 per cent higher than German. This is accounted for on the ground that prices of American steel are higher than German because of the Trust prices.

An independent packing company has been formed by cattle men of the west. It will be incorporated under the laws of Arizona and the capital stock will be $5,000,000. It will establish packing houses at Kansas City, some city in Texas and another at some other point, not yet agreed upon.

Truman G. Palmer at the Trans-Mississippi Congress, said: "We on the Pacific Coast can produce to perfection any temperate zone crop. We can grow sugar beets enough to furnish America all the sugar it can consume and thus annually save $250,000,000 that now goes abroad for sugar, but we are handicapped by high freight charges—so high we cannot put our products into eastern markets.

The Missouri State University has inaugurated a traveling agricultural school. A passenger car has been fitted up as a lecture and exhibit hall. Half a dozen lecturers accompany the car and deliver lectures along the line of the railroad. A stereopticon is used to assist in the demonstrations, showing methods of farming at the State Experimental farm. Specimens of grasses, grain and fruits are carried along and exhibited.

E. I. Kennedy of this city has returned from a two weeks' trip to Watsonville, and while there made an investigation into the apple industry of the Pajaro valley. He says the codling moth has, by spraying this season, been nearly eradicated. The damage will not amount to over 5 per cent, while last year there were about 40 per cent of wormy apples. The crop this year will be immense. We have forgotten how many thousand boxes he reported. Prices are good and the demand can not be supplied. The best, full bearing orchards are held at $2500 per acre, and the crop this season is paying big dividends on that valuation. He cited two sales of this season's fruit on the trees, one was a 40-acre orchard, 50 trees to the acre, mostly Bellflowers, which brought $7.80 per tree. Another was a 20-year old orchard of 80 acres, which brought $500 per acre for the crop. Besides apples this valley will have a big output of strawberries, prunes and potatoes. Of the latter there is an acreage of 2000, which will yield an average of 100 sacks.

At Monrovia last Saturday the Duarte-Monrovia Fruit Exchange held their annual meeting. The reports showed the total amount of oranges shipped as 298 cars. The net amount paid to growers was $89,518.78, after all expenses were paid. These figures were mostly for the seedling fruit. The returns from Valencias, of which there were 35 cars, are not in yet. The business of this Exchange was 25 car loads more than for the previous year. The question of opening a packing house in Azusa, by the Exchange, was discussed but not acted upon.

Coast News and Notes

By R. A. Dague, 1130 Eddy St., San Francisco

The San Jacinto Cannery is making a very heavy pack this year.

The new prune evaporator at Corning is complete and ready for work.

The people of the East will pay over $4,000,000 for California deciduous fruits this year.

Two gangs of fumigators and one spraying outfit are after the black scale around Ontario.

California last year produced 5,187,518 barrels of petroleum, a gain of 59 per cent over 1901.

The Riverside Vineyard Company has 2000 acres of wine grapes, of which 1300 are in bearing this year.

Up to September 1st Riverside shipped 4615 cars of oranges, and 237 cars of lemons this season.

Government surveyors are at work measuring the Sisquoc and Santa Maria rivers for irrigation data.

On September 15th the Chino Sugar Factory will pay about $90,000 for the first month's delivery of beets.

Washington farmers are holding their wheat for 75 cents. Some insist the price will go to $1.00 per bushel.

Quite a quantity of manganese ore is shipped from Alameda county to New Jersey and used in the production of steel.

The recent floods and rain storms in Kansas damaged crops and property to the amount of half a million dollars.

The crop of apples for the Pajaro Valley for the season of 1903 is estimated at 1450 cars. The crop for 1902 was 975 cars.

After the fruit growers of Los Gatos organized a co-operative association the price of green prunes soon advanced from $17 to $25.

A big land sale at Glendale took place last Saturday. Dr. and J. P. Scott of Redlands, bought 150 acres of land from Hugh Glassell.

The second annual convention of the National Nut Growers' Association will be held at New Orleans, Louisiana, October 28 and 29.

Potatoes in the Yakima valley, Washington, promise to exceed any former crop. Last year Washington produced 4,455,000 bushels.

A sardine cannery has been established at Monterey, and it is thought that during the season 150,000 one-pound cans will be packed.

The enthusiasm continues over the recent movement originating at Courtland to maintain a co-operative selling association of fruit growers.

Recent heavy rains in France have injured the wheat crop to the amount of $60,000,000. The vine growers complain also of serious injury to grapes.

Up to August 28 the total shipments of fruits passing through Sacramento were 4379 carloads, being just the same number as last year on the same date.

The picking of 500 pounds of hops per day is a good day's work, but Ameil Weselsky, of Ukiah, enjoys the distinction of being able to pick 733 pounds.

In the mountain sections of Santa Clara county prune gathering is under way. The fruit is large, but the yield is much below estimates made a few weeks ago.

The editor of the San Francisco Chronicle says Nebraska is the only state that can be considered as a competitor to California in the production of sugar beets.

The Crockett Sugar refinery is now in active operation. Last week twenty-five more men were added to the pay roll. Large quantities of beets are being shipped in.

The apricots of Ventura county, estimated at about 2,000 tons, are about all dried and in the warehouses. Growers are expecting to get about eight cents for the fruit.

Very little wheat has been delivered at Port Costa in the past three months. Considerable barley is now arriving and most of it is being loaded on ships to be sent to Europe.

The salmon packing season is about over and it is estimated that there will be an aggregate shortage of nearly 2,000,000 cases for the world as compared with last year.

Already 400 carloads of grain have been shipped out of Hemet, San Jacinto and Temecula section, and this is hardly a starter on the season's crop.

The eleventh annual convention of the National Creamery and Buttermakers' Association will be held at Sioux Falls, N. Dakota, October 12th to 23rd.

The San Joaquin ranch this year will produce about 80,000 sacks of Lima and black-eyed beans. Limas are contracted at 3¼ cents per pound and black-eyes at 2¼ cents.

County Assessor Dalton assessed the fruit lands this year of Alameda county at $200 per acre. The best garden lands near San Leandro and Haywards were assessed at $500 per acre.

The big new Stern winery at West Riverside opened for business last week. The plant has a capacity of 200 tons of grapes per day, with a tankage capacity of 500,000 gallons.

It is reported in New York that the new crop of California beet sugar was being offered to Missouri points at a price 10 points below the minimum price named by cane sugar refiners.

The two greatest oil fields in the world are those of Kern county, California, and Baku, Russia. In Asia the cost of boring and casing a well is $30,000. In Kern county about $3000.

Charles Krausse, of Sonoma county has on exhibition at the Santa Rosa Board of Trade rooms, samples of a plum which are new to other fruit growers. The fruit is large and of pleasant flavor.

The annual meeting of the Claremont Citrus Union was held last week, and it was decided as better policy to destroy all citrus culls rather than put them on the market with merchantable fruit.

The Washington wheat crop will be smaller this year than last. The figures of this year's crop of winter wheat are 5,498,700 bushels and the spring wheat between ten and twelve million bushels.

The annual report of the Redlands Orange Growers Association on the business for the past season showed that 471 cars were shipped; the gross receipts were $233,051, and of this $180,458 was net.

Hop picking is now on. It is estimated that in Mendocino the crop will run about three-fourths of that of last year. The price will go from 25 to 30 cents, which means over $400,000 for the hop crop of that county.

The annual report of the San Antonia Fruit Exchange showed that 357,698 boxes of oranges and 41,971 boxes of lemons were shipped during the past season. The net receipts to growers average over $1.25 per box.

The State Agricultural Society some years ago introduced into this state the Chile clover, commonly called alfalfa. Stock men testify that it is the most valuable forage plant known at the present time for dairy and stock interests.

The citrus crop in Tulare county is reported to be in good condition, and will come on the market earlier this season than ever before. The prediction is made that this season's output will be nearly 1200 cars, as gainst 900 shipped last year.

The report has been current that the price of wine grapes will be low. This the growers contradict. Joshua Chawvel of Glen Ellen has been offered $15.00 per ton for his crop, but did not sell. Growers are holding for $18.

The Oregon Agriculturist last week gave an estimate on this year's output of dried prunes from Washington, Oregon and Idaho at not to exceed 30,000,000 pounds. The brown rot is quite extensive, and will cut down the otherwise large crop.

The grounds at the Experiment Station near Pomona have been enlarged by leasing thirteen acres from the Chino Land Company. This land will be used for experimental work in viticulture. Over one hundred varieties of grapes will be grown.

Hueneme Herald predicts that the crop of lima beans in Southern California this season will reach 663,000 sacks. Of this amount Orange county will raise 63,000, Los Angeles county 120,000, Ventura 400,000 and Santa Barbara county 80,000 sacks.

The wineries of Sonoma county are now prepared to handle this year's crop of grapes. They have very little old stock of wine on hand. M. Miglavaca is out contracting. He wishes to secure 1000 tons for his Napa winery. At this writing he is offering $15 per ton.

The directors of the Lytle Creek Water and Improvement Company have purchased from the Fontana Development Company their interest in more than half of the water of Lytle Creek. This will give the country west of Rialto water supply in great abundance.

The Union Pacific and Southern Pacific will again put into effect colonist rates from all eastern states to California. The rates will go into effect on September 15th and continue until November 30th. Last spring 40,000 people came into California on colonist tickets.

The United States Department of Agriculture is negotiating with the farmers of Ventura county for the purchase of a large plat of land upon which it is intended to establish an agricultural experiment station. The station will be devoted to the culture of flowers.

The Sutter County Almond Growers' Association have sold their crop of almonds to Rosenberg & Co. at the following prices: IXL, 10; Nonpareil, 10½; Ne Plus Ultra, 9½; Drake's, 8½; Languedocs, 8¼; Golden State, 8; Routiers, 8; Peerless, 9; Llewelling, 8¼; Commercial, 8.

About eighteen years ago Luther Burbank took a small French plum aboue the size of a cherry that grew on a rambling throny bush. He crossed and recrossed it with French and German and other prunes of Europe and America. The result was the delicious, seedless Miracle plum.

The Western Orchard Produce Company of London is a new organization composed of London and Riverside capitalists who propose to ship oranges direct from Riverside to London next season. They are preparing to land their fruit on the London market twenty days after it leaves the Riverside packing house.

California annually sells to the world seeds to the value of from two to three millons of dollars. We dictate prices to the world on onions, lettuce, celery, sweet peas and others seeds. The business is growing and this state bids fair to be the greatest of all seed raising countries in the world. At this time the greatest seed farms are in the counties of Sacramento, Santa Clara and San Joaquin.

Orchardists in this valley will await with deep interest the results of the tests made with hydrocyanic gas as a means of destroying codling moth eggs on apples. The apples were subjected to fumigation several days ago and the hatching process of the eggs if they still retain life, will be forced by means of artificial heat. The plan should prove the merits of fumigation as a means of overcoming the packing house trouble.—Pajaronian.

G. C. Hussmann, expert in viticulture from the U. S. Department of Agriculture, is investigating the vineyards of California. He says six experimental stations will be established in this state. There are now twenty-one nonresistant vines doing well in California. Next spring 250 varieties will be set out. They will come from France, Germany and Austria. The merits of the different resistant vines are hereafter to be closely studied. Prof. Hussmann wishes to correspond with the vine growers of the coast. Address him at Napa, Cal.

The United States let a contract this week to the San Francisco Construction Co. to construct a canal 32 miles long, fifty-three feet wide and fourteen feet deep. The canal will start from the Truckee river and run southeasterly through the Truckee and Carson valleys. The object is to reclaim 300,000 acres of arid land. 1700 men at $2.25 per day are to be employed, and they will be furnished board at 25 cents per meal. Three tunnels will be constructed, one of 400, one 900 and one of 1400 feet. The canal will cost $996,787.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

(Continued.)

We remember that our quest in the great animal world has been entirely in the realm of the Arthropoda—jointed animals with jointed legs. The Crustacea or lobster class all breathe water, the Myripods have numerous joints and more numerous legs and feed on plants—Millipeds, or on insects—centipeds, in which latter case they are our friends. The Arachnida class—spiders—all have eight legs, all feed wholly on insects, and are wholly our friends. The great insect class—Hexapoda—are six legged, and are so multitudinous that they far outnumber all the other animal forms, and are so ubiquitous that we find them at every stroll, in every place. No shore is too bleak, no desert too barren, no water is too salt, no atmosphere is too torrid to harbor some of the species of this most varied and interesting class—insects.

We have spied out the characteristics of the Neuroptera or lace-wings. We have admired their large netted-veined wings, have marveled at their great strong typical jaws, have noted with surprise that low as they seem to be in structure, yet some—many of them. the Neuroptera proper—go through complete transformations, as seen in the exquisite chrysopa fly or green lace-wing, parent of the Aphis Lion. We have rejoiced to find that all of this order, if we except the white ants, are insectivorous and emphatically our friends. They are predaceous and eat up our insect enemies by the thousands.

Order Orthoptera—This word means straight wings, as the upper wings, or front wings, are, for the most part, long, slender and straight. These wings are also thick or parchment like, not so hard or horny as in beetles, nor do they so thoroughly sheathe the other wings. We are all familiar with the Orthoptera in the crickets, the grasshoppers, the locusts, the walking-sticks, the mantes and the cockroaches. Economically this order contrasts quite sharply with the Neuroptera, for here all are vegetable feeders, if we except the praying mantis family, and so all are our enemies, and no mean enemies are they either. We all know that locust plagues have been startling and terrible from times of earliest history, and today they lay a heavy hand on the product of orchard, garden and field. In these insects the large, broad-netted, veined hind wings are alone fitted for flight. The slim, thick front wings are mostly for protection. These are all biting insects. They eat and do not suck. Thus it was said in the olden times of the locusts, that they "did eat every green thing from off the face of the whole earth." So strong and sharp are their jaws that they can and often do, strip the bark entirely from quite large twigs and branches of trees. The "hateful grasshopper locust" of the west has been known to denude small fruit trees almost wholly of their bark, as many a farmer of Kansas and Nebraska remembers to his sorrow. The mouth organs of locusts are so well developed and so typical of mandibulate insects that we usually select them for study in our laboratories. We not only find the upper lip or labrum, the two pairs of side moving jaws, mandibles and maxillae, and the under lip or labium, but we find all the parts of each of these. Thus any boy or girl can acquire a very perfect knowledge of these typical mouth organs very easily and quickly by examining the same in one of our large common locusts.

The transformations of these insects are incomplete. Thus the little child would recognize the locust as soon as it hatches; and though it is utterly without wings, yet all would know it at once as a baby locust. The larger pupae look much the same, have the same habits of food taking, but as yet have only small stubs of wings. The imago is still larger, but looks much the same, and is possibly of the same general apearance, though now he is equipped with fully developed wings and is for the first time sexually mature. In our next we will study the separate families of this important order.

* * *

SEPTEMBER INSTITUTES.

The Santa Barbara and Ventura Institutes as occurring first under the new regime of a special appropriation for institutes by the legislature are of special interest. Praise was given on all sides. The people showed marked appreciation of the fact of so many specialists in the corps of instructors. Mrs. Sherman, whose ready answers to all questions on dairy subjects and grapes, elicited the remark, "Is there anything that she does not know," delighted all hearers. Dr. Sherman spoke most acceptably on Bacteria. Prof. Anderson, as always, was listened to with great pleasure. Frederick Maskew of Long Beach is full of valuable information and has a rare gift of speech, while in these walnut regions no one could draw so many eager listeners as Prof. N. B. Pierce, as he discussed the walnut disease. At both Santa Barbara and Ventura the Chamber of Commerce unanimously and most heartily extended invitations for the next Farmers' Clubs Institute.

* * *

WALNUT BACTERIOSIS.

Quite extended examination by Prof. Pierce and others seemed to show that walnut blight at Goleta was confined wholly to the immediate region of one small orchard. Prof. Pierce recommended that all the diseased trees be dug up and burned, in case a more careful and extended examination confirmed the statement of such close limitation. At Carpenteria and in the walnut regions of Ventura it is more extended, and in some orchards it is as serious as in the worst orchards of Orange. In rare cases from 50 to 80 per cent of the nuts are destroyed by the disease. While the disease attacks the twigs and leaves it does not destroy the tree, but works its terrible mischief in the ruin of the nuts. The disease spreads from the germs which winter over in the twigs, and in the ground. They are carried to the blossoms by insects, especially thrips, and to the tender twig growth by the common walnut aphids. Spraying twice by the Bordeaux mixture, once just before the leaves put out, and again just as the nuts are beginning to set, will surely save about one half the loss. Severe pruning back of all diseased limbs, which are easily seen from the obvious scars, will tend also to stay the disease.

Prof. Pierce has found that only the Persian walnuts are susceptible, and that hardshells and hybrids are largely or wholly immune. Thus he is working energetically and extensively to produce trees that shall have the excellence of the soft shell Persians and yet will wholly resist the blight.

* * *

THE SILO.

Mrs. Sherman, who has had such a wide and successful experience and who was the first to prove that alfalfa butter, even though the alfalfa was preserved in the silo, was the equal of any butter—indeed her alfalfa butter scored in an official test 98¾ points—is very pronounced in her advocacy of the silo. She says it increases the profits 33 1-3 per cent. She emphasizes the fact that the flavor and succulency of the food makes it appetizing and so enables the cow to utilize the food to the uttermost. Nor does she confine her silage to corn, though she gives it highest praise. She values alfalfa silage very highly and would always put the first cuttings with the redundant foxtail and weeds into the silo.

* * *

CARE IN THE DAIRY.

Mrs. Sherman urges that regularity in feeding and milking be most carefully observed. She insists that the best success only comes with the most gentle treatment. She never tolerates help that are ever harsh. Her insistence that clean clothes, for the milker, and that brushing and washing of cows before the milk is drawn, as indispensible if the best dairy product is to be secured, must have come as a surprise to many present.

* * *

HORTICULTURAL INSPECTORS.

Frederick Maskew gave in most happy manner such a vivid account of his work that all present must have been impressed with the value and importance of such work when in such careful, able hands. His experiments with the codling moth, spraying for the scale and in working out the habits of the immature Fuller's Rose beetle, are most entertaining. He urges the use of tobacco for the root form of the wooly aphis. He advises all to grow their own tobacco, hang it up to dry, and then just before the fall rains, dig a hole four feet in diameter close about the tree, put in a good supply of the tobacco and the work is done.

* * *

BEES.

Mr. McIntyre has made a great success with bees. His crop this poor year has been forty tons. The three sages, wild alfalfa of the mountains, and wild buckwheat furnish the native pasture. This is supplemented by orange bloom and alfalfa. Italian bees pure, or else a cross between the Italian and Carniolan are best for the beginner. The 10 frame Longstroth hive is by all means the best. The beekeeper should have everything convenient. His daughter extracted sixteen tons of honey this year by use of an automatic extractor of his own make, run by water power. In another apiary where the hand Cowan extractor was used the work was done by his daughter, in the other apiary cost $5 per day. Mr. M. would always use foundation in the brood chambers, and would produce extracted honey. The new honey exchange enabled us to secure a good price for our honey. It cost .04 to produce extracted honey. It ought to sell for six cents.

CARLOADS OF ASPARAGUS.

The largest aspargus farm in the world is located on Bouldin Island, near Stockton, California. It contains 3000 acre of asparagus in a single bed. On an average 325 carloads of canned asparagus, valued at $600,000 are shipped every year, and more than 600 persons are employed.—Sunset Magazine for September.

BEE POINTERS.

Persons owning bees and not located near streams of water should furnish them fresh water daily, as it will save time, which to the bees means honey, as it means money fo us.

When the young queen is out it is well to add a frame of eggs and larvae. This will furnish employment for the bees, and if the queen is lost on her bridal tour furnish the means of rearing another.

There is nothing that arouses the anger of bees and causes a quicker resentment than crushing them between combs and under hive covers. By useing some kind of mat over the frames a large part of this difficulty will be removed.

One who has never cared for bees should remember that bees, like animals, are very apt to return to their old homes if they are near by. In buying a hive get them some distance from where you wish to keep them or you may find them gone some day.

I have made the mistake of raising some very poor queens by giving the bees no unsealed brood whatever, except some just hatched, or eggs alone, and then supposing they could not raise queens from anything but very young larvae.—Exchange.

WALNUT BLIGHT.

The following circular is just received from Prof. Pierce, and while the treatment which is recommended is for spring application, we give it at the present time because of the intense interest which now prevails as to the blight which is costing the walnut growers an immense sum. While it is entirely probable that this formula for treatment will be repeated in the season when it will be of more immediate value, it is well worth filing away this paper, to be sure and have it when wanted.

Where failure has been had in the application of the Bordeaux mixture, we believe it can be traced to the careless mixing. This belief is founded on remarks made by several orchardists as to their methods of mixing, therefore we think it would be wise to follow the directions implicitly, for the most successful orchardists who have used this mixture refer to this same method of mixing.

The treatment recommended by Prof. Pierce for Walnut Blight (Pseudomonas juglandis) is as follows:

The following recommendations relative to the prevention of Walnut Blight or Bacteriosis are based upon several years of careful experiments by the United States Department of Agriculture. They are given to enable the growers of walnuts throughout the State to take advantage of the work of the Department on this disease so far as the experiments have progressed.

Preventive Measures.—(1.) All infected trees should be pruned carefully to remove branches showing the action of the disease of the previous year. Remove the dead tips of limbs especially those of last year's growth, cutting well back of the diseased parts. Also cut away small limbs which show the blackened scars of the past year's disease, where the organism causing the disease winters in the pith cavity. Burn all prunings.

(2) Spray the dormant trees thoroughly with the Bordeaux mixture. This work will give best results if done some two weeks before spring growth begins. All portions of the tree should be treated, special attention being given to the wood of the past year.

(3) Spray the trees a second time as soon as the nuts are firmly set, using the same spray and making a special effort to treat the young nuts upon all sides. The object is to protect the nuts from infection.

(4) Prepare the spray as follows:

Formula For Bordeaux Mixture.—
5 pounds of copper sulphate.
5 pounds of good quick lime.
50 gallons of water.

(a) Slake the lime in an oak barrel in a small amount of water. When perfectly slaked, add enough water to make 25 gallons of milk of lime.

(b) Thoroughly dissolve the copper sulphate in an oak barrel containing 25 gallons of cold water.

(c) Continue to pour one pailful each of the milk of lime and of the copper sulphate solution simultaneously into a third oak barrel, holding 50 or 60 gallons, until all of the two solutions are thus united. Stir the milk of lime as it is dipped out and pour it through a fine wire strainer into the mixing barrel.

(d) When the mixture in the third barrel is well stirred it will be ready to apply as a spray to the trees. Spray the trees while the mixture is fresh and stir the latter occasionally.

(e) The spraying should be done if possible when there is little or no wind.

(f) Use a spray pump which will maintain 120 pounds or more of pressure, and such nozzles as necessary to reach the highest limbs and do the best work over all portions of the tree with the least waste of spray.

NEWTON B. PIERCE,
Pathologist in charge.
Pacific Coast Laboratory and Plant Improvement Garden, Santa Ana, California.

The annual meeting of the Azusa-Covina-Glendora Fruit Exchange was held last Saturday at Azusa. The reports showed that 939 car loads of oranges and lemons were handled, which is the largest year's business, with one exception, this Exchange has had for the past ten years. Officers for the coming year were elected.

California Horticulturally

JOHN ISAAC, SACRAMENTO

A FINE ARBOREAL COLLECTION.

Probably the finest collection of trees in a single body in the state is to be found in the Capitol grounds in Sacramento. The hardy maple of the north, the magnolia of the south, the English oak and the tropical palm, are all growing here together, while the fact that all are doing equally well speaks volumes for California climate and conditions. There are here some of the finest specimens of their kind we have ever seen, and the collection compact, well-kept and well-grown, is an attractive feature of the capital city.

* * * *

FRESH FRUIT MEN DOING WELL.

It is cheering to know that prices for fresh fruits in the market still keep up, that the demand is good, that the growers and shippers have so far had a very prosperous season. Tokay grapes are being shipped in large quantities from Sacramento, where they attain perfection. This is a fruit crop that nearly always brings good returns. The grape is a very showy one, the berries are large and solid, and the bunches of great size. They ship remarkably well and reach the market in good condition. Their size and beauty always sells them. There is a steadily increasing acreage being planted to Tokays each year in Sacramento, and the vine is a free growing one, very hardy, being largely resistant, and the market is tolerably sure. It has always been, and probably always will be a good money crop.

* * * *

PACKERS SHOULD LABEL THEIR FRUIT.

The last session of the Legislature passed a law providing that all fruit packages should be labeled, stating where such fruit was grown, and making it a misdemeanor to ship or offer for shipment any fruit packages not so marked. This was for the purpose of securing to each locality the credit for the fruit it produced and to establish its just reputation with the dealers and consumers. It has been a customary thing in the past for jobbers to purchase the crop of an orchard in one section of the state and pack it in boxes as coming from an entirely different, but better known section. The result has been that many sections where superior fruit is grown are wholly unknown, while the products have gone to build up the reputation and increase the prosperity of sections which are not entitled to the credit. It was a species of small fraud, and the action of the Legislature in the matter was commendable. All packers should be guided by this law, the principal section of which is as follows:

"All fruit, green or dried, contained in boxes, barrels, or packages, which shall hereafter be shipped or offered for shipment in this state by any person, firm or corporation, shall have stamped, branded or stenciled, or labeled in a conspicuous place on the outside of every box, barrel or package in clearly legible letters at least one-quarter of an inch in height, a statement truly and correctly designating the county and immediate vicinity in which such fruit was grown."

Violation of this statute is a misdemeanor and subjects the offender to a penalty of $200 to $500 fine.

* * * *

FUMIGATE ALL YOUR STOCK.

In setting out a new orchard or vineyard, whether the trees or vines are infested or not, whether they come from an infested section or a clean one, it is a good plan to fumigate them with hydrocyanic acid gas. They may not need the treatment; if not it will do no harm, and there may, in spite of the greatest care in selecting and inspecting, be eggs, or young of phylloxera, woolly aphis, or other injurious insects, which from a very small start may gain a foothold and increase until they ruin the orchard and vineyard. It is little trouble to treat the young stock, as good a chance will never offer again, and when it is in bulk and out of the ground, the cost and trouble is little, and as a precautionary measure it is invaluable. A dry goods box, lined with building paper, will make a good fumigating chamber, and a very large quantity of young stock can be treated in a small space each time.

GOOD RESULTS FROM SPRAYING.

Reports from the Professors in the field fighting the codling moth around Watsonville, are still very encouraging. On trees that have been properly sprayed, under their supervision, there is said to be not more than 3 per cent to 5 per cent of wormy fruit, while on trees that have been left unsprayed for comparison there is about 50 per cent of wormy apples. Certainly the apple growers of the Pajaro Valley have received an excellent object lesson in the advantages of thorough and systematic spraying, and many there, who have heretofore refused to spray, have become firm believers in its efficacy and will attend to their orchards thereafter. We understand that Professor Woodworth is preparing a bulletin on his summer's work along these lines that should be a very valuable addition to our horticultural literature.

* * *

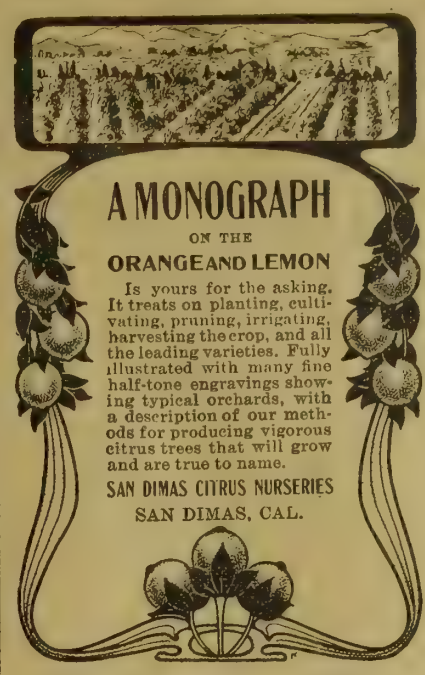
TROUBLES OF VINE GROWERS.

The phylloxera is making steady inroads in the vineyards of most of the northern counties until it is making grape growing, especially in the wine section, expensive and uncertain. All the new vineyards in these sections are being set out with resistant stocks and working all these over, and afterwards replacing the missed ones is a complicated and expensive process. Added to the phylloxera pest is the Anaheim disease, which is even more rapid and widespread, and which has obtained a foothold in most vine-growing sections in the north and is spreading with alarming rapidity. Prof. Pierce's discovery that the Le Noir is resistant to the Anaheim disease, is an important one, and may be the means of saving our vineyards. But it adds yearly to the cost of grape production and very materially lessens the vineyardist's profits, so that in spite of the present high prices of grapes, not a very large margin is left for the grower.

"The latest estimate places the total number of apple trees of bearing age in the United States at something over two hundred millions. This is nearly three trees to every person. These trees yield more than one hundred and seventy-five million bushels. Not all these apples are consumed at home, for in years of full crop more than three millions bushels go abroad. Yet, the apples kept at home are more than two bushels for every adult and child. We are a nation of apple eaters. This fact may not be to our credit, however, when we remember that a good part of all these apples are Ben Davis and other kinds that a refined and cultivated taste would not choose for its dessert. Yet probably half our people never raise an apple; and of the half who do raise them, but a small percentage grows for market; and of those who grow for market only a part make a profit from the business. Yet there is money in apple growing."—Country Life in America.

MONEY IN FLOWERS.

The flower field is big with possibilities for rich and poor. From the man with creative energy who would labor over new types and think a flower with a new tint or form the reward of several years of toil, it is but a step, though a long one, to the more commercially inclined who sees big money in a large industry and essays the cultivation of a tract that would be a principality in any of the old countries; raising flowers by the square mile, shipping seed by the carload, and employing men by the score. It is but another step to the next who deals in the seed that his large business does not give him time to raise, his wholesale supplier of cut-flowers, who raises roses or carnations by the square mile. And then on through the various gradations of wholesale and retail "specialists", including the popular decorator whose alert eye sees merit in a discarded weed and raises it by patronage to be an article of commerce; and does not exclude the street-venders, picturesque and clamorous over their second day stock, as they bring up in the rear of the floral procession of California.—Ednah Robinson in Sunset Magazine for September.



Scott's Wax A SURE CURE FOR Gum Disease

Made after the formula of Mr. John Scott, late Horticultural Commissioner, by
S. M. WOODBRIDGE, Ph. D., So. Pasadena, Cal.

DIRECTIONS—Cut away the diseased parts of the tree, allow to dry, and apply melted wax with a brush.

Land Plaster
FOR SALE
AT THE
California Portland Cement Co.'s
PLANT,
$7.50 PER TON
California Portland Cement Co.,
401-403 TRUST BLDG.,
LOS ANGELES, CAL.

Largest Nursery
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CALIMYRNA FIGS
(*Genuine Smyrna Fig of Commerce*)
The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

Contracts made now for delivery 1904.
Deciduous, Citrus and Ornamental Trees and Rose Bushes.
Finest and most complete Nursery Catalog published mailed for five cents postage.

RESISTANT GRAPE VINES
Sole agents in the United States for largest Nursery in France growing Resistant Grape Vines. In addition to this we are also large growers of Resistant Grape Vines ourselves. Quotations given on rooted Resistant Grape Vines, grafted to the leading varieties of table and wine Grapes. As we handle in car lots we can make very low prices.

PAID UP CAPITAL, $200,000
FANCHER CREEK NURSERIES Inc.
GEO. C. ROEDING, PRESIDENT AND MANAGER
P.O. BOX 14 FRESNO, CAL.

The Famous
Burgess Steam Washer
NO RUBBING! NO WASHBOARD!

Saves Strength, Fuel, Labor, Soap, Time. Family Washing Done in One-Half the Time.

Agents Wanted. Where there are no agents, will sell a few machines at very low prices, to introduce them. Satisfaction guaranteed or money refunded. (Have never been asked to refund money yet.)

It is the only machine that will wash when you are away from it, as well as when by it.
It sits on a furnace, cook, gas, or gasoline stove, from which it derives its motive power.
It washes and boils at the same time, all parts perfectly, without rubbing.
A weakly lady, or a child 10 to 12 years old can operate it.
It does not require a constant turning of the cylinder, as all other so-called steam washers do.
It is constructed on a scientific principle, that of forcing steam and water at a boiling point through the fibre thus driving out the dirt and depositing it under a false bottom where it is retained, and never comes in contact with the clothing a second time.
Your clothing is not in the water, and is washed in pure steam, which is the only correct principle on which to clean clothing.
Clothing washed in this machine, will bleach perfectly white.
It will wash all kinds of white goods, ginghams, laces, woolen and colored goods, more perfectly than can be done by hand.
It will wash and boil fifteen fine shirts or an equivalent of clothing, in from ten to fifteen minutes.
It will wash lace curtains, embroideries, and all delicate goods, without injuring a thread, and better than they can be washed in any other way.

The cost of this machine will be saved in one year, in wear of clothing.
As there is no rubbing, there can be no wear.
All rubbing, jerking, pounding and sloshing macines wear and tear the clothing more than the ordinary wear of them.

What the People Say of them.

We have used one in our family and find it a great labor-saving machine. I am prepared to recommend it as excellent. Those who sell them are benefactors to womankind.
L. Wallace,
Pastor Congregational Church,
Wyandotte, Cal.

Our washings are large—used to take all day and part of the next day. Now, with the Burgess Steam Wa her, it takes but half a day.
Mrs. W. H. Adams,
Honcut, Cal.

To say that it is a good machine would not express it. It is simply lovely—would not part with mine for any money. In fact, could not get along without it. Mrs. F. Baker,
Palermo, Cal.

It is a good machine, and does all you claim for it. W. Holt,
Woodland, Cal.

FOR PARTICULARS ADDRESS
J. W. SANFORD, OWNER OF PATENT RIGHT FOR CALIFORNIA Palermo, California

Full Sacks

of plump, rich grain are obtained by the use of a fertilizer containing not less than 6% actual

Potash

For Wheat, Rye, Barley, and all other grains, Potash is most essential.

Write for our books, they are *free* to farmers.

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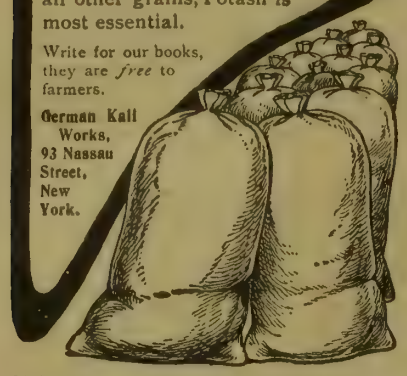

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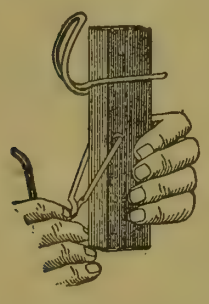
Pomona Ladder Co's. "TRIPOD"

An ideal Fruit Pickers' Ladder; For Lightness, Ease of Handling and possibility of getting right into the tree, by throwing the single leg over limbs. Every step double bolted. Sizes 6 to 12 feet. Circulars free.

GEO. H. MARSH, Pomona, Cal.

Be Sure and Get



Woodward's Adjustable Prop Bracket

The Only Bracket That Will Adjust Itself to Any Prop

They are cheaper than any other Prop Bracket that can be made, and will positively not get out of order. No nails or splice to break; no time spent in repairing; can be padded if you wish without nailing. Stand props as near the bottom of trees as possible and they will not be in the way of cultivation If the Bracket is sprung apart so as to go on partway of the Prop it will take a side hold and will never slip. If the Bracket should be too loose press the sides together so as to make a little friction on the sides of Prop and it will stay in place better while being put up.

Having reduced our price to $17 per thousand, we would be pleased to have a continuance of your patronage and can fill all orders promptly.

J. K. Woodward & Co.

171 NinthSt. Riverside, Cal.

THE Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,

Station K, **LOS ANGELES, Cal.**

DECIDUOUS FRUITS

J. W. MILLS, ONTARIO, CAL.

OLIVES ON A STRIKE.

Editor Cultivator: I have two rows of olive trees about eleven years old and they are in a perfectly healthy condition. They blossom every year but they fail to set any fruit. Some of my neighbors say that they will never bear any fruit, while others say they will bear in a year or two. They are about one mile from the foothills. I fertilize them with barnyard manure and irrigate them regularly. The land on every side of these trees produces a good quality of citrus and deciduous fruits. Can you give me any advice in regard to these trees?—S. P., Monrovia.

You do not state what variety of olives you have. Some varieties will not bear when planted by themselves and are even then very shy bearers. The only advice that we can give is to graft some of them over to Mission and Rubra. These two varieties will pollinate them during most seasons and the last named is known to be a particularly good variety for that purpose. We are surmising that your trees are of the Nevadillo Blanco variety. Should they be Missions and do not bear with the treatment you have been giving them, you had better grub them out and plant lemons or walnut trees in their place and take part of their product to buy what olives you need. We are not sure that it is not the best plan in any event.

* * *

STOCK MELONS, CARROTS, BEETS

Editor Cultivator: I planted some Tsama melon seeds this year and the vines and melons are doing very well on my soil without much or any water. I write to ask if you can tell me what is the matter with one of the vines which seems to have some sort of disease or parasite, which makes the vine and ground underneath it brown and dirty, as covered with a brown dust. Not knowing what was the matter with it, I tore up the vine and destroyed it. Can you tell me, from this description, what is the matter with the vine and the remedy?

Also, will you advise what, in your opinion, is the adaptability of our soil up here immediately south of Arrowhead Springs, a deep gravelly loam, very like much of the soil in the foothills above Pomona, to the cultivation of carrots and sugar beets, if they are sowed during the rainy season?—M. S. Severance, Arrowhead.

The usual cause of the appearance which you describe above as affecting your melon vine is due to plant lice. They cause the leaves to curl and the vines and ground become covered with honeydew that exudes from the lice. There is usually a growth of fungus that grows on the honeydew, causing the dark color. It was proper to remove and destroy the plant. You can sometimes stop the spread of the insects if taken in time. If they become scattered throughout the field so that the vines are affected to considerable extent, there is no practical artificial remedy of curing the trouble. There are plenty of things that will kill the lice, but they will not justify the outlay on a large scale. For instance, a garden patch of melons might be covered with sheets and fumigated, but it would not pay to go over a whole field that way. There is a parasite that works on the melon plant lice so that they will not increase indefinitely. Toward the middle of the season they generally die off to such an extent that they do no harm. Usually, the second season equalizes the numbers of lice and parasites so that little harm is done from then on.

We do not consider such land as you describe good sugar beet land. By early planting which will enable the beets to grow during the winter you may succeed in securing five or six tons of beets per acre. That would not be a paying crop. Sugar beets do not take kindly to irrigation on land with considerable slope, as the soil is washed away from them. With stock beets it is different as they appear to do as well when half out of the ground as the other way. Carrots will do well with irrigation on the land you describe. They root deeply and do not require such frequent irrigation as sugar beets.

* * *

TABLE GRAPES FOR SAN DIMAS.

Editor Cultivator: I would like to know what varieties of table grapes will do best, and if you would advise planting same on soil which is rather on the heavy clay order? The subsoil is hard. I wish to plant eight acres that I have here at San Dimas.—W. H. C.

We could not give you direct advice on the subject without knowing of the hard subsoil is really available soil or hardpan. We certainly would not recommend planting grapes on two or three feet of soil with a hardpan bottom. You might get some good grapes, but they would be likely to have poor bunches, making them unattractive and poor sellers. Like trees, grape vines do their best in good soil. Such varieties as Flaming Tokay and Purple Cornichon do well on heavy clay land, or one with a heavy clay subsoil that is inclined to be red. Such soil seems to give the grapes better color. If the land is underlaid with hard pan, you had better confine your plantings to annual crops or strawberries. While such crops do better on deep soil, they are more profitable on shallow ones than deep rooting plats. Grape vines planted on soils that were two to four feet deep on the Paso Robles experiment station, bore well for the first few years and then began to fail. Grape vines send their roots 30 or 40 feet down into the soil if there is no obstruction.

* * *

GLENDALE QUESTIONS.

(1). What is the best way to treat "gophered" orange trees? Should the tops be cut back; if so, how severely; how should the barked stump be treated?

(2). When is the best time to sow field peas in an orange orchard- How far apart should the rows be? Should they be cultivated and irrigated; if so, how much? Please give general treatment of soil and crop.

(3). What is the latest recommendation of the State University for the treatment of red spider on orange trees and formula for spray? How effective is distillate as applied for black scale Will red spider, just now appearing, do sufficient damage before winter to justify spraying?

(4). In case of an orchard plowed too late, what is the best means of pulverizing the lumps? I have a piece so lumpy that it is hard to cultivate and irrigate. Is a disc harrow most effective and will it do enough work after the first time to pay to go over it again or even twice more?—Ernest Braunton, Glendale.

* * *

(1). If an orange tree is so badly gophered as to turn the leaves yellow, it should be cut back so as to remove all of the fine brush and leave the main branches and retain the shape of the tree. Give it about a pound of nitrate of soda in a basin about four to eight foot across, according to the size of the tree, fill it up with water often enough to soak the nitrate down into the soil where most of the fibrous roots grow. Paint the barked places with a grafting wax made of one pound of mutton tallow, two pounds of beeswax and four pounds of resin; mix well while boiling and pour into a tub of tepid water and pull until it becomes light in color. Apply it with a brush when warm. Spray the whole tree, from top to bottom with whitewash and keep it well supplied with moisture. If the tree does not make a reasonably good start and take on a healthy color, pull it out and put in another one. Give it till after the early growing period in the spring, when it will be ample time to replace it, should it not respond.

* * *

(2). If you have plenty of water for irrigating, August or September is the best time to plant field peas for green fertilizer. Get them up high enough to plow under so that they will rot during the winter time and be available for the tree roots in the spring, when nitrification takes place most rapidly in the soil. We have been planting for winter growth during most of the time during the past, but we are not sure that it was the proper thing to do. It strikes us that we will get more humus in the soil by getting the green stuff under before winter. When it is plowed under in the spring, a great deal of it is dried out or lost in the dry surface soil, or does not come into use for another year. While we may have to use more water during the late summer months while growing a crop at that time, we can economize during the winter and spring by thorough cultivation; besides, the soil will not pack so tight when there is a lot of vegetation underneath during the rainy season. For summer planting of peas in the orchard, we would recommend furrowing out with a cultivator, placing the small shovels twelve inches apart on the frame. Run the water down these and soak the ground thoroughly. Do not make the furrows over three inches deep. As soon as the ground is dry enough to work properly, sow the peas broadcast just as you would wheat; 99 per cent of the peas will roll into the furrows. Take the same cultivator and split the ridges made by the first furrowing out and you will cover the peas up in good shape. Run over this with a light harrow with the teeth slanting back so as to cut and fine the surface after the frame of the harrow has pressed it down. The cultivation which covers the peas should be deeper than the first one (preparing for irrigation) so that the soil will be well stirred and the bottoms of the furrows in which the peas lie be broken up as much as possible. If the peas are soaked over night before planting you will have them up and growing in three days. If the land has never grown peas before, get a little soil from a field or patch where peas have grown last year and add it to the water in which you soak the seed. Be sure to get the soil from at least a foot below the surface, or the germs which should inoculate the seed may be destroyed, as they perish when allowed to become dry and hot. This will require very little labor and will be likely to insure a good crop of vines.

* * *

(3). The plan of battle against the red spider does not seem to be completely worked out yet. It is known that spraying with distillate will kill the eggs and spiders when touched, but enough seem to escape contact to keep up the supply. Distillate is very apt to injure the foliage more or less and should not be applied to orange trees too often as it requires time for the leaves to recover and this period is found to be so long that the red spider has time to bring out another numerous family before it is safe to spray again. We are informed that sulphur thrown into the trees is about as effective as anything and does no harm to the trees or fruit. This is applied in the deciduous fruit sections of the north for the red spider that attacks that class of fruit trees by means of a seed sower attached to a heavy farm wagon. With the citrus red spider, it has not been so effective though it has not been so thoroughly tested on the latter, still we have heard of good results. The greatest efficiency with the sulphur when applied as a fungicide or insecticide, is obtained when the weather is hot, while the insects are active. It will not affect the eggs in the least. Sulphide of potash is recommended as a safe and sure remedy. 32 pounds of potash

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and 37 pounds of sulphur and mixed in 50 gallons of water and 2 pounds of salt. After the boiling has stopped, use one gallon of the mixture to 100 gallons of water to spray with. This should be applied once a week for three weeks.

[It may be added that while in Tulare county last week we were informed by a nurseryman that the sulphur remedy had proved almost a complete failure with him. This is not meant to discourage, but to encourage some grower to try different remedies, side by side, and report. —Ed.]

* * *

(4.) In answer to your fourth question, we will say that a disc is not of much use where the clods are loose and roll around. The disc is made to cut up ground that is crusty. The Acme harrow is a good clod smasher and leaves the soil in good shape. In case you cannot get one of those, a roller would be the next best thing. An iron harrow with the teeth slanting backward and weighted down will also do the work. The most effective implement for such work is what beet farmers call a "horned toad;" it is a cast iron roller with sections about two inches wide and eighteen inches in diameter, every alternate one of which is loose on the shaft. The sections are nothing more than heavy wheels with sharp projections on what would be the tires. I give this list so that you may choose from what might be at your command. As to the advisability of your going over the ground more than once, that depends on the condition of land after you have smashed it once. You must be the judge of that. The "Horned Toad" machine would do the work in one operation. The Acme harrow would take about everything reducible by going over the ground twice.

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

ECZEMA

Have a buggy horse nine years old, has little work to do, is well fed on oats, hay and four quarts of barley three times each day. He broke out under back pad quite severely and trouble spread a foot in each direction and looks like mange—gradually the thin—and while the "mange" has disappeared upon giving him green food he will not gain in flesh. Can you suggest an ailment and the remedy therefor?

Ernest Braunton, Glendale.

Give a purgative pill composed of 1 oz. aloes and 1 dram each of nux vomica, beladonna and ginger. Rest the horse a few days.

CHRONIC COUGH.

Editor Cultivator: I have a fine little Jersey cow which will calve about 16th of November. She has had a cough for stme time. Can you give in your veterinary columns a remedy; also cough in pigs and horse?—Chas. T. Rorke, Sebastopol.

Glyco-Heroin (Smith) is probably the best preparation for chronic cough. The dose for the different animals comes with the bottle.

J. W. Mills, of Pomona Experiment Station is making great preparations to entertain the Farmers' Club next Monday, the 14th. Prof. Leroy Anderson, F. K. Maskew and Mrs. Sherman will be the principal speakers.

A meeting of fruit growers was held at San Jose Saturday to discuss and fix a price on the prune crop. From reports gathered it was learned that former estimates were too high, and the loss in curing was heavier this year than usual. No price was agreed upon at the meeting.

BEE SUPPLIES—G. G. Wickson & Co, 123 N. Main Street, Los Angeles, Cal.

CALIFORNIA FRUIT INDUSTRIES.

From the report of Prof. E. J. Wickson of the University of California made to the American Pomological Society, now in session in Boston, we are permitted to quote:

The entire report has much of interest, but we are required by limited space to condense it very much.

Last year's shipments in tons were as follows:

Citrus fruits, 225,668; fresh deciduous fruits, 100,390; dried deciduous fruits, 151,944; raisins, 47,575; nuts, 10,918; canned fruits, 80,364; wine and brandy, 88,682; total, 705,811.

Expressed in carloads, the comparative amount of the different kinds of deciduous fruits shipped in 1902 out of the state were as follows:

"Cherries, 245; apricots, 221; peaches, 1,777; plums, 1,480; pears, 2,003; grapes, 970; apples, 309; mixed, 20; total, 7,025.

Prof. Wickson says:

"Fruit growing districts have the busiest towns, the handsomest rural improvements, the largest assessment rolls, and are most attractive to home seekers."

As to the growing favorites, he adds:

The fruits which have recently advanced most notably are the two pomological kings, the orange and the apple.

The orange industry is reviewed at some length. The acreage of this fruit has increased five-fold during the last five years. Reference is made to the large amount of rebudding of lemons to oranges.

The apple acreage is increasing in all parts of the state, but most notably in the Pajaro valley. In this region the commercial handling of the apple has reached the most systematic and greatest development. The output of Pajaro valley apples has increased from 765 carloads in 1897-8 to 2200 carloads in 1901-2, and only about one-third of the trees are now of bearing age.

The grape is next in increase of planting during the past two years, although the planting does not represent a net gain of acreage. In some parts there is a constant loss of acreage by phylloxera, and by the mysterious Anaheim "disease."

The prune acreage of the state has declined slightly because of the failure and consequent eradication of trees planted in unsuitable locations. Though the acreage has increased in the best districts such new plantings have been more than offset by the clearings, and the prune industry is now in very promising shape.

The apricot also has sold well. It is growing in favor.

The peach has made a distinct advance during the last two years.

The peach combines the three great outlet avenues of fresh shipments, canned and dried products, as no other fruit can.

The cherry is gaining ground continually.

The fig industry comes upon a new basis through the acclimation of the pollination insect which is essential to the success of the Smyrna fig.

The olive has not realized all the expectations which California planters have cherished for it. * * * California will produce profitably good olives and olive products in suitable places and through the efforts of masterful men and women who can rise to the requirements of production and protection against imitation articles of the trade.

Co-operation marketing occupies considerable attention. The failure of the Prune Growers' Association, the partial success of the raisin and citrus growers' co-operative movements to some have proved discouraging, yet Prof. Wickson finds much of encouragement for the future. "Co-operation among California fruit growers is all the stronger because of the failures it has made. We have now in California from 75 to 100 local associations, most of them owning property in packing houses."

By-products of fruits, irrigation, culture methods, frost-fending, propagation and horticultural institutes are each reviewed.

As a whole the report shows a most gratifying condition of the horticultural conditions of the state.

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18 inch long	12.50	per 1000
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PEACH ROOT BORER.

(Continued from first page)

knot are also favorite places for the borer to thrive.

"Carbon Bisulphide.—To get the best and quickest results from the carbon bisulphide, the soil surrounding the tree should be as loose as possible. To accomplish this, remove the soil from the base of the tree as shown in diagram (Fig. 4, D). It should be from six to eight inches from the bark to the edge of the trench, and as deep as there are indications of the borer; the gummy masses and castings indicate the location of the borer (Fig. 4, A and B). Then this trench should be filled up to the level with some mellow soil from the surface of the ground, as is shown in diagram (Fig. 5, E). Now we are ready to put the carbon bisulphide around the tree; from one and one half to two and one-half ounces are used according to size of tree. It is

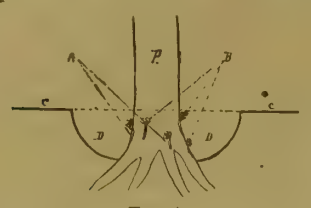

FIG. 4.
Peach tree. A Burrows of borers exposed. B. Gum and castings. C. Surface of soil. D. Trench

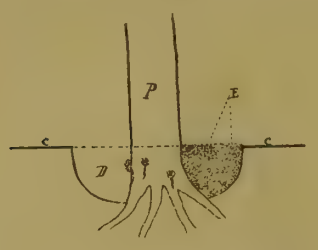

FIG. 5.
F. Mellow earth filled in trench.

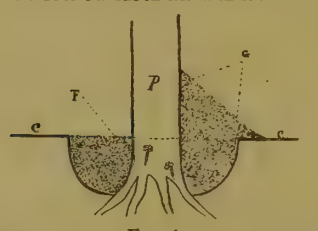

FIG. 6.
F. Location to put carbon bisulphide. G. Soil covering carbon bisulphide after application.

safest not to put the liquid on the bark, but about one and a half or two inches from it, as indicated in Fig. 6, at F. After the liquid has been put around the tree as directed, it should be immediately covered with six or eight inches of pulverized soil and pressed down with a shovel, as indicated in Fig. 6, G. If these directions are followed there is no reason for failing to kill the borer. Experience has taught us that the fumes will remain about the tree for from a few days to a couple of weeks, and if rain should fall after the application, some damage may result. We therefore recommend the removal of the soil from the trench after a few days; or if rain should follow the application, the soil should be removed at once. This remedy, applied in November or December and followed with the lime, coal tar, and whale-oil soap wash, as a barrier, will reduce this terrible pest."

In conversation with the Cultivator reporter, Mr. Ehrhorn reinforced the warning to remove the soil containing the bisulphide. If no rain follows no injury will result, but if it should rain trees are killed if a quantity of the drug still remains.

The application of strong washes and coal tar is condemned as is gas lime, which may kill the tree. The binding of tobacco stems about tree below surface of soil, and use of cheap tobacco dust from cigar factories is deemed worthy of further experiment.

Preventive Measures.—This is a case where prevention is far better than a cure. Good, stout parrafine paper is recommended. Wrap about tree and tie tightly in several places. Wrap from six inches below surface to eighteen inches above. Have broad lap. Apply about the middle of March.

Lime, Coal Tar and Whale-oil Soap.—Probably the best preventive used today is a compound of the following ingredients:

Unslaked lime .....50 pounds.
Coal tar .....1½ gallons.
Whale-oil soap .....12 pounds.

To make the compound, slake the lime and tar together, adding enough water to make a moderately thick whitewash. Dissolve the soap with hot water and add this to the lime solution, adding enough water to make a thick, paste-like whitewash. For economy, some fine sandy soil may be added to make quantity, but not too much, otherwise the compound will become too brittle when dry, and will lose its purpose."

C. H. SESSIONS, ASSOCIATE EDITOR

ABOUT THE COW STABLE.

A person suffering from any disease, or who has been exposed to a contagious disease, must remain away from the cows and the milk.

Keep dairy cattle in a room or building by themselves. It is preferable to have no cellar below and no storage loft above.

Stables should be well ventilated, lighted and drained; should have tight floors and walls and be plainly constructed.

Never use musty or dirty litter.

Allow no strong smelling material in the stable for any length of time. Store the manure under cover outside the cow stable and remove it to a distance as often as practicable.

Whitewash the stable once or twice a year; use land plaster in the manure gutters daily.

Use no dry, dusty feed just previous to milking; if fodder is dusty, springle it before it is fed.

Clean and thoroughly air the stable before milking; in hot weather sprinkle the floor.

Keep the stable and dairy room in good condition, and then insist that the dairy, factory, or place where the milk goes be kept equally well.

Have the herd examined at least twice a year by a skilled veterinarian.

Promptly remove from the herd any animal suspected of being in bad health, and reject her milk. Never add an animal to the herd until certain it is free from disease, especially tuberculosis.

Do not move cows faster than a comfortable walk while on the way to place of milking or feeding.

Never allow the cows to become excited by hard driving, abuse, loud talking, or unnecessary disturbance; do not expose them to cold or storms.

Do not change the feed suddenly.

Feed liberally, and use only fresh, palatable feed stuffs; in no case should decomposed or moldy material be given.

Provide water in abundance, easy of access, and always pure; fresh, but not too cold.

Salt should always be accessible.

Do not allow any strong flavored food, like garlic, cabbage, and turnips, to be eaten, except immediately after milking.

Clean the entire body of the cow daily. If hair in the region of the udder is not easily kept clean it should be clipped.

Do not milk within twenty days before calving, nor for three to five days afterwards.

The live stock census of the Department of Agriculture for 1902, shows that the net increase of horses in the United States during the year was only 26,149 head. This is much less than the increase in population and the business activities in which horses are employed, and shows why horses are so scarce and in such great demand at high prices. Of course one cannot tell what the future has in store for us, but it is a sure thing that unless some unforeseen financial crash, of which there are no signs now, occurs, horses will continue in good demand and prices will be high for a long time in the future. If farmers will raise good horses, they are certain to get good prices for them.—Farmers' Tribune.

THE NUMBER OF MEAT ANIMALS IN THE WORLD.

The following is considered the most reliable estimate of the number of meat animals in the world:

Cattle 310,000,000
Sheep 600,000,000
Hogs 100,000,000
Goats 7,000,000

This is 1,080,000,000 animals to feed for the 700,000,000 meat eating people of the earth.

GOVERNMENT WHITEWASH.

We gave recently a good durable whitewash for fence and chicken house. A request is made for the formula of the whitewash used by the government. It is said to be the very best that can be made. Here it is:

Put two pails of boiling water into a barrel and add one-half bushel of well burned, fresh quick lime; put in quickly one peck of common salt, previously dissolved in hot water, and cover the barrel tightly to keep in the steam while the lime is slacking. When violent bubbling is over, stir until well mixed together, and, if necessary, add more boiling water, so as to have the mass like thick cream. Strain through a sieve or coarse cloth. Make a thin starch of three pounds of rice flour and one pound of strong glue, having first soaked the glue in cold water, and to the mixture add two pounds of whiting. Add this to the lime wash, and also sufficient hot water to dilute to the proper consistency. Keep hot while applying it. Six quarts of the mixture will cover 100 square feet of surface, and it may be made any color desired.

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with the average test of .0138 for 50 consecutive runs; the other the recent competitive test between six different makes of separators at the Kansas State Agricultural College, where
The U. S. Excelled All Others
in the tests of skimmilk and total minimum loss, according to Press Bulletin No. 123.
For reports of many other victories, write for catalogues.
We have the following transfer points: Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Montreal, Quebec, Sherbrooke, P. Q., Hamilton, Ont.
Address all letters to Bellows Falls, Vt.
Vermont Farm Machine Co., Bellows Falls, Vt.

Stock men are scared over the many deaths of cattle in the vicinity of Courtland and Franklin. Dr. A. R. Ward, of the State University, has investigated the matter. He gives it as his opinion that the trouble is anthrax, contracted by the animals drinking water from the old drainage canal.

From a bulletin recently issued by the State Dairy Bureau we learn that the dairying business is growing steadily. The production of butter increased from 23,591,028 pounds in 1898 to 31,528,962 pounds in 1902.

Four years ago no one supposed that hemp could be successfully grown in California. Thomas & Ettlinger, of Sacramento county thought differently. They began experimenting and this year they have 400 acres in hemp, the stalks of which are eight to ten feet in length. The product will bring a good price. Others are preparing to plant quite largely next year.

WANTED Twelve—more or less —high grade **JERSEYS**

from this county or adjoining counties. Must be strictly good individuals.

W. M. MARCH

1798 W. 39th St. Los Angeles, Cal.

WANTED

A young man who is a good milker and experienced in caring for cows, to take charge of our small herd of Jerseys. A good opportunity for a man who desires to add scientific knowledge of feeding and management to practical experience. Good wages to the right man. Address, with references,

C. W. Leffingwell, Jr., Whittier, Cal.

Removal Notice

OF

The Cutter Analytic Laboratory

On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from **Fresno to Berkeley.**
Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is

The Cutter Analytic Laboratory
Rialto Building, San Francisco

OUR SPECIALTY IS

CUTTER'S BLACK LEG VACCINE

If your druggist does not stock our products, order direct form us. We pay all transportation charges

CREAMERY SUPPLIES

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines & Boilers — Milk Coolers
Apiary Supplies
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

G. G. WICKSON & CO.
123 N. Main St., Los Angeles, Cal.
SAN FRANCISCO — PORTLAND

The consolidation of dairy interests seems to be the order of the day. All the milk furnished San Francisco milk dealers by dairymen in Alameda, Santa Clara, Marin, San Mateo and Contra Costa counties is now handled by the Bay Counties Commercial Co., who in turn sell to the retailers. This company has raised the wholesale price of milk from ten to fourteen cents per gallon, and guarantees all its milk to be of a certain standard as to quality. In Los Angeles the combination is being made between several of the retailers, with the result that two large concerns, the Belle-Vernon Farms Co., and the Glen-Holly Co., which were formed by the union of several retailers, now control a large part of the milk trade. Prices have been raised, commencing with Sept. 1.

There have been many changes in the dairy business in Oregon in the past year. The establishment of the milk condenseries at Forest Grove and Hillsboro has closed several creameries. It is also changing the methods of the dairy farmers who supply milk to the condenseries. Quantity rather than richness in butter is the thing wanted in producing milk for the condenseries. It is also probable that it pays to produce summer milk rather than winter milk for the condenseries, whereas the reverse has been true in the creamery business. The sale of hand separators has been pushed throughout the state with extraordinary vigor. The large central creameries have been establishing cream gathering routes in many districts which have hitherto produced nothing but "store" butter. The relative proportion of creamery butter has greatly increased. In a number of the older dairy districts the price of feed and the difficulty of securing competent help even at high wages have combined to check the development of dairying and not a few dairymen have reduced the number of cows they keep. When this has been done after proper testing it has actually been a step forward rather than backward. Nothing better for the dairy industry of Oregon could happen than the selection of the poorer third of the dairy cows of the state for sale to the butcher.—Oregon Agriculturist.

Hogs need salt, the same as any other class of stock, and the surest plan is to keep a supply where they can help themselves. A box kept supplied with salt, charcoal and ashes will be of material aid in maintaining good health, and with good health pigs may readily be kept thrifty.

In feeding hogs, either during growth or when fattening, a good feeding floor is necessary. The increased quantity of grain required when fed in mud or dirt to make a pound of gain will soon pay for a tight feeding floor, saying nothing of the better health maintained by having the food supplied in a cleanly manner.

Thousands of patrons of creameries think all this talk about cleanliness of stables, of milk pails and milk cans, and clean habits in milking, are all nonsense. They are ignorant of the destructive habits of dirt in milk. They don't realize how it lowers the value of milk as a food, and the selling price of butter and cheese.

A. B. White of this city, not content without Jerseys, has again started into the business of raising fine bred stock. This week he received the fine bull Sultane's Golden Fern, recently from England. Description and pedigree in another column.

"Hay is worth as much as breadstuffs, these days," says the Nevada County Miner. Hay is scarce and the crop is short, while grazing lands are already denuded.

Kings county is rapidly coming to the front as a dairying county. It has mainly developed this profitable industry during the past five years.

The Jackson-Granger Dairy Company has been incorporated with capital stock at $50,000. Place of business, Alvarado, Alameda county.

The dairying business is rapidly expanding on this coast, especially in Central and Northern California.

BEE SUPPLIES—G. G. Wickson & CO. 123 N Main Street, Los Angeles, Cal.

SULTANE'S GOLDEN FERN, 65,304. IMPORTED.

This son of Golden Fern's Lad has three lines to Golden Lad, and eight to Sultanne P-7-H. C., the foundation of the greatest Island family. Her descendants for many years have won a far greater number of first prizes in dairy tests and in show-ring contests than are traceable to any other blood. Her unspeakable worth is seen in the fact that her name appears in the pedigree of the largest number of animals, and that her blood nicks so successfully with other leading strains, and that this Sultanne blood has been for over twenty years modifying and perfecting the udder and increasing the size, vigor and ability of island-bred Jerseys. Men from England and America have often searched the island for the very best that could be found and have invariably come away with a piece of old Sultanne.

Golden Fern's Lad traces four times to Sultanne and is without doubt the most popular bull of any one that has ever appeared, not excepting his double grandsire, the great Golden Lad. The uniform excellence of his daughters is the wonder of the island, and the admiration of England. They are winners everywhere, and command the highest prices ever attained.

In Africa horses are freely fed on fruits and vegetables, Pumpkins are especially liked by the horse. In Oklahoma they make use of pumpkins and melons for horse feed.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.
C. W. LEFFINGWELL, JR., Sec'y., Whittier, Calif.

Ramona Herd
REGISTERED JERSEY CATTLE
Geo. W. Thomas Riverside, Cal.

Three Young Bulls
FOR SALE
W. Jay Cole, Anaheim, Cal.

MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

G. I. Lytle
HIGH GRADE, STANDARD BRED JERSEYS
2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
GEO. Y. COUTTS Orange, Cal.

LEMONITA HERD
Leffingwell Rancho, Whittier, Cal.
Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
Terms reasonable. Liberal reductions to those coming from a distance.
No charge for service on cows having authenticated fat or butter records.

Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
E. E. MOORE, Compton, Cal.

Venadera Herd
OF REGISTERED JERSEYS.
Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices
GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT Station B, Los Angeles

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.

SULTANE'S GOLDEN FERN, 65,304, Imported

Bred by J. Reid Walker, Chestall, Rugeley, Staffordshire. England. Imported by F. S. Peer.

SULTANE'S GOLDEN FERN

SIRE:
GOLDEN FERN'S LAD, P. 2160, H. C. .....
Only four of his sons in service in America; these are Flying Fox, Carnation's Fern Lad, Emanon and Golden Fern's Diploma—all at the head of high class herds.
The greatest sire of prize winners ever on the Island.
Sold for $2,250 at auction.
Sixteen of his get averaged $938 at auction.

DAM:
TRISTESSE, Vol. X., E. H. B.....
Bred on the Island by Mr. J. P. Marett, St. Saviour's, the breeder of Golden Lad.
Milk record—
8 613 lbs. in 1899.
9,642 lbs. in 1900.
Her dam is a half-sister to Golden Lad (said to have been the best daughter of Sultane's Favorite), and a half-sister to Trial. Her sire and dam were grandson and granddaughter of Sultane, P. 7, H. C.

BOYLE, P. 1559, H. C.
Son of Golden Lad.
Sire of most of the celebrated members of the Fontaine family, and many other prize winners.
Dam by Everton King.
GOLDEN FERN, P. 4711, H. C.
Daughter of Golden Lad.
Winner of 2d over Jersey and parish prize, 1894
Dam, a granddaughter of Cetewayo.

GOLDEN HERO, P. 1833, H. C.
Winner of 1st over Jersey and parish prize 1893, 1894 and 1895.
Grandson of Golden Lad.
Son of Bellona 3d, winner of 1st over Jersey, 1889.

Sire of—	lbs.	oz.
Nita Belle D	21	1½
Nicotine's Pet	20	1

SULTANE 14th, P. 3433, H. C.
Milk record—
10,630 lbs. in 1900.
10,295 lbs. in 1899.
Won in 1900, 1st prize and championship at Oxfordshire show; 1st and Lord Mayor's cup in the milking trials; 3d in butter test and Bronze Medal—1 lb. 12 butter from 40 lbs. 13 oz. milk, when 257 days in milk.
Won in 1902, Silver Medal at Tunbridge Wells show: 38 lbs. 6 oz. milk, 2 lbs. 1¼ oz. butter, when 132 days in milk, in her fifteenth year.

SULTANE'S GOLDEN FERN is in breeding a bundle of Sultane blood with crosses thro' the very best sources. He is a brother in blood of the Golden Sultane heifer that fetched at auction $1,600 in 1900, and of Flying Fox, who, two years later, topped the highest auction price for a Jersey, $7,500, and he is closely related to many animals of highest merit whose names cannot be given in this space.
He is a stylish bull one year old, has an elegant frame of perfect dairy conformation, a rich hide and skin, and is marked with white like his sire and most of the noted Island Jerseys. He has the harness on for light service and will remain for the present at Echo Glen Place. Terms reasonable.
A. B. WHITE, NO. 2547 W. 12TH ST., LOS ANGELES

JERSEY BULLS OF ALL AGES
FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY - DUARTE, CALIF.

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

THE BROODY HEN.

Broodiness is a condition that nature gives the fowl for rest. It is a natural state for all varieties of poultry, but in some breeds it has been practically bred out. Coupled with the rest is the instinct for motherhood.

The writer has always been a strong advocate of giving fowls the benefit of this provision by nature. They need it. not only for their comfort, health and strength, but for the stamina of the coming generation.

We hold that it is very important that these brood hens be allowed this rest, and when it is not practical to give them eggs for hatching, they should be placed in a pen without a nest, and here allowed to gradually wear off their feverish condition. To use harsh methods, in breaking them up is barbarous, and there should be a law against it; in fact, it is cruelty.

On the farm of the writer a separate house and run are used. Each week a new lot of broodies are placed in these quarters and the old lot removed. It seldom requires more than one week to thus break them up. There are roosts, but no nests in this building. The hens are put in the building at night, and set upon the ground floor. At the end of the week all those that have taken to the roost and do not show any signs of broodiness are removed to the regular pens. In this way we have very little trouble and the hens are greatly benefited.—The Small Farmer.

A feeling prevails that the California poultry shows of this year will show a great improvement over the past. It seems to be in the air—this feeling that the best poultry in the world can be bred in California. And the breeders are here who will take advantage of the condition. Watch the shows for some of the finest birds ever shown on the coast.

THREE QUESTIONS.

Editor Cultivator: Kindly answer in the Cultivator where is the Wilbur Stock and Poultry Food Co. located? Will six months old pullets now beginning to lay moult in the fall? Is ground barley good food for laying hens?—R. A. G., Petaluma.

Answer: The Wilbur Stock and Poultry food may be secured of the poultry supply houses advertising in the Cultivator. Pullets hatched in February usually mouult before winter, those hatched in March and later do not moult in the fall. Ground barley used in moderation is excellent for laying hens, especially for Leghorns.

POULTRY MANURE SHOULD NOT BE WASTED.

Too many farmers fail to realize the importance of properly preserving and disposing of hen manure. Often it is wastefully thrown away or scattered so thickly that it becomes a detriment to growth rather than an aid, or it is stored in barrels, where through the process of heating, much of its fertilizing value is destroyed. The method of caring for and using this valuable fertilizer pursued by Mr. Nat M. Norelius of Washington is a very good one, and may be adopted with profit by farmers or poultrymen.

The cleanings from the henhouse are put in a small covered shed. As the pile grows larger it begins to heat. It is then shoveled over and occasionally a little land plaster is added. After repeated shovelings the pile is reduced to a dry pulverized mass, which can be readily handled. It is used with good results in both orchard and garden. In the orchard, the weaker trees, which have been previously marked, have a pailful of the manure scattered about their base and well raked in in early spring. For potatoes a pailful of manure is distributed to each 100 feet of drill. In strawberry beds, a handful of the fertilizer is scattered around each hill and a similar quantity of unleached wood ashes are applied later. For corn, melons and squashes, a small amount is put in each hill at the time of planting.—Orange Judd.

POULTRY SHOWS.

Poultry shows as announced for this year are:

Mechanics' Pavilion, San Francisco, Cal., December 1-5, 1903, under management of the Oakland Poultry Association. J. C. Williams, Secretary, 33 Market St., San Francisco.

Los Angeles, Cal., December 8-12, 1903.—Annual Exhibition L. A. Poultry Association. H. W. Kruckeberg, Secretary, 123 S. Los Angeles St., Los Angeles, Cal.

Fresno, Cal., December 16-19, 1903. —Annual Exhibition Fresno Poultry Association. Geo. R. Andrews, Secretary, Fresno, Cal.

San Diego, Cal., January, 1904.—The San Diego Poultry and Pet Stock Association. Harry McIntire, Secretary, San Diego.

IDEAL CONDITIONS.

California offers ideal conditions for poultry raising. It is a known fact that all fowls, both old and young, thrive on green foods.

No state in the Union produces a greater variety of grasses and vegetables, and the fact that they grow and are cultivated the year round, cheaply and in great abundance, gives the California poultryman a decided advantage over eastern breeders.

Not only is this true of green foods, but the many varieties of grain of the best quality and mill products are grown, manufactured and sold at less cost than in many other states. This fact taken in connection with our excellent markets and steady demand explains in a measure, the success of our poultrymen, and should be an incentive to many to enter into this business, particularly those possessed of limited means and small tracts of land.

If these facts were properly placed before the people of this state, and of the United States, the importation of poultry and poultry supplies would cease.

Many eastern poultrymen who are put to endless trouble and great expense in preparing for the changes in seasons would investigate and surely avail themselves of these advantages in climate, soil, markets and productions.

Owing to the mild cilmate in this State it is not necesary to build elaborate air-tight buildings, such as are in use in eastern States. Any ordinary frame building with water-tight roofing answers.

It is an acknowledged fact that fowls raised in colder climate do not lay as many eggs as our California fowls.—San Jose Mercury.

Cholly Oumpleigh—I say, Doc, don't-cherknow, my eyes are weak.

Dr. Krusty—No wonder. They're in a weak place.

We'll Collect That Bill AND NO FEE UNLESS SUCCESSFUL. Collections made the world over. Prompt reports and returns. Look after property and business for non-resident clients. Prove claims. Attend meetings of creditors. Recovery of property and collections are specialties with us. Commercial information and ratings. Write us today.

Riverside Mercantile Agency, Riverside, Cal.

JACOB KREGER

Route 1 - Anaheim, Cal.

BREEDER OF

STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS

Eggs and Stock for sale at reasonable prices

White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.

G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.

The largest poultry supply house in the United States

KOW-KURE BAG BALM

LEE'S STOCK CONDITIONER
LEE'S FLYO-CURO

COTTON SEED MEAL

"THE ECONOMIC FEED"

Endorsed and Fed by Leading Dairymen and Stockmen

HENRY ALBERS

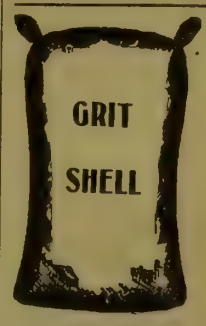
315 South Main St. Los Angeles, Cal.

Don't believe all we say but just enough to try our Poultry foods.

Emery's Pure Meat Meal Emery's "B. B. & B."

Ask your nearest dealer for them and take no imitations.

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.



From Siskiyou to San Diego—anywhere in this great

STATE OF CALIFORNIA

You can, during September, use the best poultry

GRIT and SHELLS

At San Francisco prices. The shells are clear white and granulated the proper size for chickens, so that there is no waste. They are not "kiln dried," but retain the substance the fowls need. The "Henteeth," or grit has sharp edges, which it retains until consumed. It is impossible for it to wear smooth.

100-lb. Sack "Henteeth," the best poultry grit } $3.00
100-lb. Sack Granulated Oyster Shells } Freight Prepaid

Send for samples before buying to make sure you are getting the best.

GEO. H. CROLEY, Poultry Supplies

508 Sacramento St. SAN FRANCISCO Catalogue Free

WHITE PLYMOUTH ROCKS

GIVEN AWAY

"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.

Eggs—13 for $2.00.

INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2.50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.

Mrs. A. Basley

Near Los Angeles, Alma St. Prospect Park, Cal.

MATURED

Standard Bred

Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns

Only Birds that have

MOULTED

are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.

CAPTAIN MITCHELL

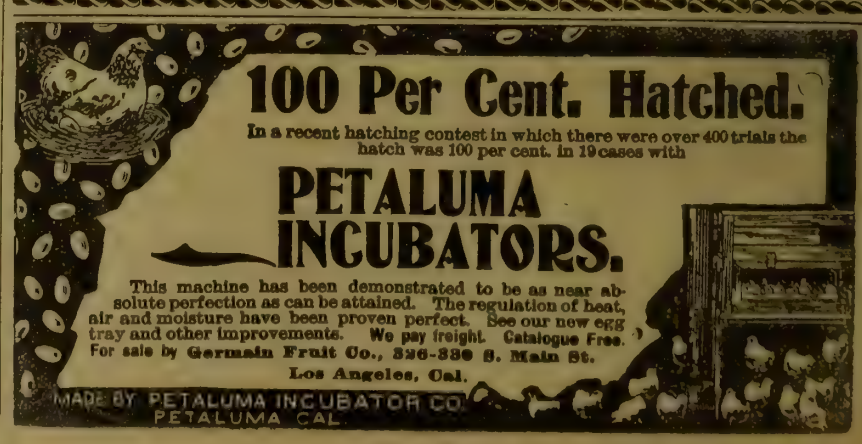
SANTA BARBARA, CAL.

O. I. C.

Ohio Improved Chester

The Coming Hog, Not Liable to Cholera.

ALEX. GORDON, Hueneme, Ventura Co., Cal.



Where Poultry Supplies Are Handled by the Carload

The A. R. Coulson Co., Petaluma, Cal.

SO SUCCESSFUL

Has been the sale of Coulson's Poultry Medicines and Poultry Foods, etc., that on August 25 a company was incorporated for $25,000.00 and only $5,000.00 worth of stock remains to be sold. The balance has been paid in. The name of the company will be A. R. Coulson Company and the headquarters and principal factories will be at Petaluma. The company is incorporated for a term of fifty years and will manufacture, buy, sell and deal in merchandise of every description. The number of its directors shall be five, of which A. R. Coulson is president. The amount of capital stock actually subscribed is as follows:

NAME	RESIDENCE	AMOUNT
A. R. Coulson	Petaluma	$9,000.00
Lucinda Coulson	"	1,000.00
R. M. Skinner	"	100.00
Helen M. Skinner	"	4,900.00
J. Hall Lewis	"	1.00

SUCCESS INSPIRES CONFIDENCE

Our success was immediate, That the confidence of our earliest customers was not misplaced is shown by the rapid growth of our business. Today we point with pride to the best equipped establishment of its kind on the Pacific coast, occupying over 5,000 feet of floor space, in California's famous poultry city, Petaluma. Here we manufacture medicines, extracts, etc., but our principal output is poultry medicines and balanced rations for poultry and stock. We send out from 10 to 15 carloads of poultry food a month.

A larger amount of Coulson's Poultry Food is used by the poultry men near Petaluma. Many of the poultry men haul to their ranches by the 4-horse wagon load. For instance: Geo. Gaston at Two Rock has 2500 laying hens and feeds them a mash every morning of Coulson's Egg Food, using over 50 sacks a month of it, and has been feeding it for over a year with good results; W. Church, who has about 3,000 chickens; C. C. Boyson, who has about 3,000; and Mark Hardin, who has about 3,000, all use big loads of this feed with good results. Many of these large ranches near Petaluma are commencing to hatch out large broods of young chicks and they feed them Coulson's Growing Chick Food, which is a complete balanced ration food for little chicks, being composed of grains, seeds and meals, etc., all thoroughly and properly mixed ready to feed.

IF YOU ARE GOING TO RAISE ANY LITTLE CHICKS

You surely want to get in a few sacks of Coulson's Chick Food. A free sample will be sent for the asking. Over 125 stores in California now handle Coulson's Poultry Foods, but in case no one has it for sale in your town, you can send to factory and get factory prices and have it shipped to you by freight. We will soon have ready for free distribution 10,000 copies of illustrated catalogue and poultry account book and egg record, a nice book to keep accounts of the profits or losses from the poultry business. We can also supply you with White Leghorn eggs for hatching in any quantity at a little above market quotations. We also manufacture Lice Killers and Poultry Disinfectants and Medicines and if you want good Poultry Supplies at small cost send to us or ask your dealer for Coulson's Poultry Foods.

One of our Salesmen on His Regular Trip Through Southern California. Photograph Taken at Watsonville.

A. R. COULSON CO.

(Incorporated) **Petaluma, California**

HOW TO MOVE FOWLS SUCCESSFULLY.

During the months of September and October most all of our fowls will put on their new plumage, and during this process of molting much can be done by the fancier to not only help out but hasten the matter and increase the beauty of the plumage to such an extent as is almost surprising to those who do not know that this is possible.

When the birds are on the range and can roam where they please they will provide for themselves all necessary material out of which feathers are made, but when in confinement all this material must be supplied by the poultry keeper.

Use good wholesome food given at regular intervals and enough of it and of such kind as is needed. There is no time when a meat ration is so necessary as during this period. Besides care and good feeding, we may at this time supply the pigments necessary to produce the gloss and rich deep coloring so desirable in exhibition birds.

To each three birds take a teaspoonful of flowers of sulphur and mix in the soft food on bright, warm days, three times a week, and on alternate days a teaspoonful of carbonate of iron to a dozen fowls, but don't give the iron to white plumaged birds, as the tendency is to yellow the plumage. Where the birds are kept purely for utility purpose and the plumage doesn't matter, it will, when given as above, facilitate the molt to such an extent that you can almost see the feathers unfold themselves. If this treatment is kept on during the entire molt, the birds will get through easily, as there will be no loss of strength, nor will any of them hang in the molt, but keep on until completed.

Now, if you desire to have an exceedingly fine plumage, keep the birds in a place partly dark, that is, where there will be no strong sunlight. Feed a little linseed oil when you feed the carbonate of iron and you will be surprised to see the beautiful black with that rich greenish tint so much desired. In the buff varieties it deepens the color and you will never find that "washed out" looking plumage so often seen. It (the carbonate of iron) is absolutely harmless and can be fed as directed without any bad results whatsoever. It appears to have the property of forcing into the feathers whatever coloring properties the bird has in its body, and which are deposited in cells especially constructed to contain them, but it must be administered during the molt or it is useless.

We, of course, take it for granted that the fowls are free from vermin and that their quarters are kept scrupulously clean, for this also is a factor of a successful molt, and if there is no green food growing in the yards then it must be supplied in plenty—American Poultry Journal.

CHARCOAL.

Permit me to urge all breeders of poultry who wish healthy fowls to be liberal in supplying their birds with charcoal. It is one of the best preventives of disease and purifiers of the animal system we have, or at least that we know of. It helps to purify the digestive organs and acts as a stimulus by purifying the blood and toning up the system in general. It does not need to be crushed fine, mix with other food and compel them to eat it, but all that is necessary is to break it up in small pieces convenient for them to swallow. They will produce more eggs if they have plenty of charcoal of easy access. The cost of charcoal is but a trifle, even when bought, and if you burn wood in your stove the fire ashes may be sifted out and the black coals saved and pounded in pieces about the size of a grain of corn and placed in small piles, where the fowls can get it easily. It is especially valuable during the spring and summer months, for then it is that the blood is sluggish and needs something to purify it, and it is from this reason, principally, that most of the poultry disease come during these months.—Up to Date.

A. T. Lindgren of Kingsbury informs us that it is entirely probable that California poultrymen will exhibit at least a carload of fine bred birds at St. Louis next year. Mr. Lindgren will make an effort to capture a Buff Leghorn prize. He has some remarkably fine birds of that breed.

A SINGING LESSON.

A nightingale made a mistake—
  She sang a few notes out of tune—
Her heart was ready to break,
  And she hid from the moon.
She wrung her claws, poor thing,
  But was far too proud to weep;
She tucked her head under her wing,
  and pretended to be asleep.

A lark, arm in arm with a thrush,
  Came sauntering up to the place;
The nightingale felt herself blush
  Though feathers hid her face.
She knew they had heard her song,
  She felt them snicker and sneer;
She thought that this life was too long,
  And wished she could skip a year.

"Oh, nightingale," cooed a dove,
  "Oh, nightingale, what's the use?
You a bird of beauty and love,
  Why behave like a goose?
Don't skulk away from our sight
  Like a common contemptible fowl;
You bird of joy and delight,
  Why behave like an owl?
"Only think of all you have done,
  Only think of all you can do;
A false note is really fun
  From such a bird as you!

Lift up your proud little crest;
  Open your musical beak;
Other birds have to do their best,
  But you need only speak."

The nightingale shyly took
  Her head from under her wing,
And, giving the dove a look
  Straightway began to sing.
There was never a bird could pass—
  The night was divinely calm—
And the people stood on the grass
  To hear that wonderful psalm.

The nightingale did not care—
  She only sang to the skies;
Her song ascended there,
  And there she fixed her eyes.
The people who listened below,
  She knew but little about—
And this tale has a moral I know,
  If you'll try to find it out.

JOHNNIE'S PA.

My pa—he always went to school,
  He says, an' studied hard.
W'y, when he's just as old as me,
  He knew things by the yard.
Arithmetic? He knew it all,
  From dividend to sum;
But when he tells me how it was,
  My grandma she says "Hum!"

My pa—he always got the prize
  For never bein' late;
An' when they studied joggerfy
  He knew 'bout ev'ry state.
He says he knew the rivers, an'
  Knew all their outs and ins,
But when he tells me all o' that,
  My grandma, she just grins.

My pa—he never missed a day
  A-goin' to the school,
An' he never played no hookey, nor
  Forgot the teacher's rule;
An' ev'ry class he's ever in
  The rest he always led.
My grandma, when pa talks that way,
  Just laughs and shakes her head.

My grandma says 'at boys is boys,
  The same as pas is pas,
An' when I ast her what she means
  She says it is "because."
She says 'at little boys is best
  When they grows up to men,
Because they know how good they were
  And tell their children then.
—Josh Wink in Baltimore American.

UNCLE DICK'S LITTLE GIRL.

Uncle Dick reached up to the apple tree above him, and pulled a long, sinuous bough, picked out with delicate, rose-hearted bloom, down to him, with a caressing motion. Through the little gap thus made in the big pyramid of blossom was seen a far-away glimpse of the harbor on the western side of the Four Winds peninsula. The sun had lately set, and the harbor was like a great ruby cup filled with fire and glamor. On the other side of the orchard long fields, fresh with the tinting of early spring, sloped down to the shore of the open Atlantic, long and white, where a calm ocean slept bluely and sighed in its sleep with the murmur that rings forever in the ears of those whose good fortune it is to have been born within sound of it. Back landward were the wooded pine hills where the twilight was already hanging thickly and would presently overflow and trickle down on the lowland homesteads and orchards of Four Winds. But the harbor glow would linger long, and it was always a sight worth seeing when the great stars came out in the clear-swept arch of sky above it, like jewels in some huge, overturned crystal flagon of night.

"When these blossoms have given place to fruit, I'll have my little girl with me again," said Uncle Dick tenderly.

He looked through the boughs to the harbor, and his gentle brown eyes filled with a light that was not of the sun set or the lustrous water. The smile that came to the sensitive lips, veiled in the sweep of a silken, silver-sprinkled brown beard, told that Uncle Dick's thought was a very pleasant one.

Two of his listeners smiled at each other—the tolerant significant smile which expresses our slightly amused recognition of some harmless fallacy in our friends.

Do you really expect that she'll come back to Four Winds after all these years, Uncle Dick, and her such a great lady now?" said Martin Baker, perhaps thinking it wise to soften any blow the near future might have in store for this Uncle Dick, whom everybody in Four Winds loved, even those who, safe in their hard shell of protective common sense, laughed in a not unkindly fashion at his dreamy fancies and odd ways.

Uncle Dick released the apple bough and it swung back into its place with a gush of perfume that flooded the cool air like a wave.

"I know she will come," he said calmly. "Bertha Lawrence never forgot nor broke a promise in her life. Two years will have made no difference in her in that, at least."

"Even so," said Christopher Merriam, "ain't you afraid that she won't be happy or contented here, Uncle Dick? Seven years makes a good deal of difference in folks—'specially seven such years as she has spent, living with rich people and traveling abroad and all that."

Uncle Dick looked at the last speaker tolerantly. A humorous sparkle replaced the musing light in his eyes and his smile was half quizzical.

"I don't think you need be worrying over that, Christopher. I'm not. None of you really know my little girl, although she lived among you fourteen years."

He spoke in a tone of quiet confidence. Merriam and Martin, after a few more casual remarks, strolled away, and Uncle Dick was left with Phillip Armory, the young minister of Four Winds church, whose manse was just across the road from Uncle Dick's place, and who had fallen in the habit of straying over often to talk with this high-souled, simple-minded old man, with the eternal youth in his eyes and heart.

Mr. Armory was sitting on the stone wall under the huge apple tree. When the other men had gone, his blue eyes met Uncle Dick's brown ones with quiet comprehension.

"They're laughing at me, those two," said Uncle Dick with a smile. "They're thinking now, and most likely saying, 'What a fool that old Dick Romney is over his little girl! She'll never come back.' But I don't blame them. They just don't know her, that's all, they just don't know her."

He came over and leaned against the mossy stones. The twilight was thick about them now, and the apple blossoms were dizzily sweet in the dew.

"I don't know her, either, said Philip Armory, gently, "but I think she will come back to you."

Uncle Dick nodded.

"Folks thing I'm foolish because I talk so much about my little girl. I don't talk half so much about her as I think. I'm thinking of her always—have been ever since she went away seven years ago. She's been in my heart all the time, and I've been in hers! Don't I know? What does it matter that she doesn't write very often, or speak of coming back when she does write? I know she'll come. She'll keep her promise and keep it gladly, too. If I didn't know that I wouldn't want her to keep it at all."

"How was it she came to leave you?" asked Armory. I don't think I've ever heard the rights of the story."

"I had a sister, once, said Uncle Dick, gently. "She was beautiful and good. She married a fine fellow, too, but he took her away from us. He died soon after Bertha was born, and

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my sister came home and died, also, of grief. She gave her baby to me with her latest breath. That can't never be undone. Bertha was her mother's gift to me—to me. There's nobody had a right before that. But her father's will had left her under the guardianship of his own people. They wanted to take her away at once, but I pleaded hard for her, and they agreed to leave her with me till she was 14. Then they took her away. It most broke her little heart. When she went away she took my hand in both of hers in a way she had, and she looked up at me with her whole lovely, pure soul shining out of her great eyes, and she said: 'Uncle Dick, as soon as I am 21 I'll come back to you.' I've never seen her since. They won't even let her write me often. But I am content. Bertha will be 21 in September, and she will come back to me then."

Perhaps a shade of doubt showed itself on the younger man's face. Uncle Dick detected it and laughed in his low, gentle fashion.

"You don't feel so sure? You've heard of her cleverness and her beauty, and what they call her social triumphs? Yes, yes, but you'll see! they'll all see."

As Phillip Armory walked home through the purple, softly-scented dusk he recalled all he had heard of Bertha Lawrence. The thought of her had been curiously interwoven with his life and dreams since he had come to Four Winds a year ago. He believed in her, but not quite with Uncle Dick's entire faith. She would come back, but would she be soul-free? Would the life here satisfy her now? Between the child of 14, knowing no home save Uncle Dick's gray old cottage, and the woman of 21, who had spent her seven formative years amid all that wealth and culture can give what unbridgable gulf might not yawn?

"I hope there is no disappointment in store for Uncle Dick," thought Armory, tenderly. "I have never met a purer, sweeter soul."

As the summer waned, Uncle Dick talked less about his little girl than was his wont. His Four Winds neighbors said that he was growing doubtful himself, but Philip Armory knew better. He knew how Uncle Dick was counting the slow-passing days, and his heart was troubled with the fear that there was some sorrow in store for the sweet old man.

"She will not come—or, coming, will be changed," was his unuttered doubt.

But Uncle Dick remained untroubled. His eyes were always tranquil and happy when he spoke of her, as he often did to Philip.

"Merriam was here today, Mr. Armory. He said he s'posed I'd soon be fixing up the house and getting ready for Bertha. I said no. She would find it as she left it, and it would satisfy her. The Four Winds folks laugh at me and I at them.. I know her; they don't, you see. That makes all the difference."

A great, although quiet change had come over Uncle Dick in these purple-hearted days of the late summer. He went about humming scraps of old-time songs, his step was lighter, his deep, kindly voice had a new and richer note of tenderness. He liked to linger in his orchard at twilight and dream of his little girl. Armory, who often walked there with him, forebore by word or motion, to interrupt his charmed reveries. He walked beside him, suiting his younger, stronger step to the old man's. Sometimes Uncle Dick patted his friend's arm and laughed softly. "What a nuisance the old man is, isn't he?" he asked whimsically. "Old dreamer! But, ah, you don't know my little girl Mr. Armory."

"I hope you will know her," he said again; "not as her fashionable world knows her—nor yet as these well-meaning, stupid Four Winds folks know her, but as I know her, in all of her beautiful woman's soul, and her noble, loyal little heart. She will be worth knowing. Her mother was a queen among women."

One evening Uncle Dick came to meet Armory with an almost boyish lightness of step; in his eyes was a glow and brightness. He held a letter in his hand.

"Writ on her 21st birthday," he exclaimed. She will be here in a week's time, God bless her!"

On a September day, when Four Winds in its ripely tinted breadth and length lay basking in the mellow autumn sunshine that spilled over the brim of the valley, through the grim old pines, down to the harbor, cupped in its harvest-golden hills, Bertha Lawrence came home. All Four Winds knew it by night. Philip Armory did not make his customary evening call on Uncle Dick. For one thing, he feared to intrude on the sacredness of this reunion; for another, he was still troubled by the thought that he might see something besides gladness in his old friend's eyes—some perplexed shade of doubt or fear, some token that his dream lacked perfect fulfillment.

But when he went over the next evening he understood that his fear had been needless. Uncle Dick had been right—he, and only he, had thoroughly known his little girl.

They were in the orchard, those two, among the bronzing leaves and hanging boughs bent earthward by their mellow burden. They came to meet him slowly, through a long avenue of fruition, with an arch of primrose sky at its seaward end.

Uncle Dick's face was an open book written over with unmarred triumph and happiness. Armory was quick to see that there was no shadow in the old man's eyes, and equally quick to realize that, as far as the girl at his side was concerned, there never would be, Bertha Lawrence had come to her own.

She was very lovely—lovelier than even rumor had painted her—this tall, graceful girl, with the dark, finely-poised head, and the clear, untroubled gray eyes. Apart from her loveliness she had the distinctive charm, feminized and subtilized, that Armory had come to associate with Uncle Dick.

She held out her hand with a gesture of fine, frank friendship.

"This is my little girl," said Uncle Dick, proudly.

"You have justified his faith in you," said Armory to her with a smile.

"Any one in whom Uncle Dick believed would do that," she answered. "His faith is of that rare kind which carries its own fulfillment."

She turned and held out her hand to Uncle Dick with a sudden, girlish delight that broke through her womanly calm like a gleam of sunlight rippling over a placid sea.

"Oh, how happy I am!" she said. "Everything here is so dear—and you, Uncle Dick, are the dearest of all."

Uncle Dick took her hands softly in his own.

"My little girl!" he murmured tenderly.

Armory turned away his head as if from some glimpse of soul communion too holy to be desecrated by stranger eyes. But on his face was the light of one who sees a great glory widening and deepening down the vista of his future.—Orange Judd Farmer.

RECIPES.

Doughnuts—One egg, cup rich milk, cup sugar, three pints flour, three teaspoons baking-powder (or one and a half meausures Horsford's Bread Preparation). These are made richer by adding one egg, and one teaspoon butter.

Sugared Doughnuts.—Try this way of sugaring doughnuts. Take a medium-sized clean paper bag, into it put three or four doughnuts and two tablespoons of pulverized sugar. Close the top of the bag by holding tight in the palm of your hand and shake the cakes back and forth once or twice. On taking them out you will find them more evenly and beautifully coated than can possibly be done by the sifting process. Two tablespoons of sugar will coat about one dozen cakes. If any sugar remains in the bag after you are through lay away and use again next time—Mary C. Wood.

Tapioca Cream—Soak over night two table-spoons tapioca in one-half tea-cup milk, or enough to cover; bring one pint milk to boiling point; heat well together the yolks of three eggs, half tea-cup sugar, one teaspoon lemon or vanilla for flavoring, add the tapioca and stir the whole into the boiling milk, let boil once, turn into a dish, and immediately spread on the whites. Serve when cold.

Chili Sauce.—Twelve large ripe tomatoes, four ripe or three green peppers, two onions, two tablespoons salt, two of sugar, one cinnamon, three cups vinegar; peel tomatoes and onions, chop (separately) very fine, add the peppers (chopped) with the other ingredients, and boil till it thickens. Bottle and it will keep a long time. One quart of canned tomatoes may be used instead of the ripe ones. This Chili sauce is excellent and more healthful than catsups.

HOMELY HINTS.

A fever patient can be made cool and comfortable by being frequently sponged with water in which a little soda has been dissolved.

Brasswork can be kept beautifully bright by occasionally rubbing with salt and vinegar.

For insomnia a glass of hot milk, or, better still, hot malted milk, taken just before retiring, will often have the desired effect.

After touching poison ivy wash the parts exposed in alchohol and avoid anything greasy.

A very complete filling for open cracks in floors may be made by thoroughly soaking newspapers in paste made of one pound of flour, three quarts of water and a tablespoonful of alum, thoroughly boiled and mixed. Make the final mixture about as thick as putty, and it will harden like paper mache.

Every sauce containing butter and flour is made after the same formula. Melt the butter, add the flour and cook to a paste, then add whatever liquor is required, milk, stock, strained tomato or cream, and cook, beating constantly. The result will be a smooth, creamy sauce.

Macaroni or spaghetti will be much tendered if put in cold water and slowly brought to a boil than if dropped raw into boiling water.

In baking puff paste, have a very hot oven and have the heat come from below until the paste is risen as high as it will go. Then allow it to brown, setting it on a higher grate if necessary.

Raisins ought never to be washed for a pudding, or it will be heavy. Rub them clean between dry towels.

GIANT SOAP BUBBLES.

Here is a way to make soap bubbles as big as the biggest pumpkins that you ever saw, and so tough that they will roll about over the carpet for ever so many minutes before they think of breaking: Into a pint of warm water shave a piece of brown laundry soap about an inch square containing a good proportion of lye. When this is thoroughly dissolved add a tablespoonful of gum arabic and stir till melted. Then a teaspoonful of glycerine is necessary, and lastly a quart of cold water.

If the bubble makers are not very little people and know how to keep the water out of their mouths, wonderfully colored bubbles can be made by separating this mixture into cups and adding a pinch of different dyes to each. But for little people strawberry or currant juice for pink bubbles, and orange juice for yellow, are perhaps safer. The lye in the soap plus the glycerine increases the brilliancy of the bubbles, and the gum gives them elasticity. Hot water is necessary to dissolve the various ingredients, but unless cold water is added they expand and break too rapidly in the cooling process.—Poultry Journal.

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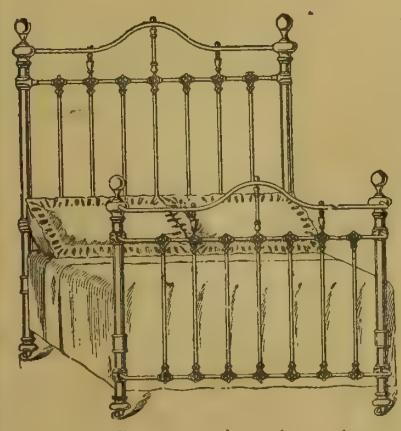

The late shipments of Brass Beds are now here. They are all in beautiful designs and of superior workmanship. The Tuscan, a rich, velvety finish, is very beautiful; also the Polet finish, a combination of the light and dark finish, is very effective.

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Los Angeles Markets.

Los Angeles, Sept. 10th.

Butter holds firm at the same quotations which have prevailed for weeks. Supplies seem ample.

Eggs are firm and holding to old prices, notwithstanding heavy receipts of easterns. Promise is still made for increase to 30 cents. Eastern are bringing 27 cents.

Potatoes in fancy grades are scarce and quickly picked up.

Butter.

B. of T. Creamery, per 2lb roll		60
Dairy, do	.52½	55
Cooking	.20	22½

Cheese.

California and 3-lb hand		16½
Cal. Downey or Anchor		15
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.27	.28
Fresh Eastern	.24	.25
Store, case count	.24	.25

Potatoes.

River		1.00
Salinas	1.65	1.75
Local, per ctl	75	1.25
Sweet potatoes	2.00	2.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, white		.85
Onions, yellow, cwt		1.10
Beets, per 100 lbs	.60	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chilles, green per lb		.02½
Peas, green, per lb		.02½
Lettuce, per sack	.25	
Radishes, doz. bunches	.15	

Fruits; Fresh.

White figs, 20 lb box		.50
Black figs		.75
Cantaloupes, per crate	1.25	1.50
Watermelons, per doz	.50	1.50
Strawberries, box, fancy	.04	.06
Lemons, per box	.75	1.50
Pears, fancy northern, box	.40	1.25
Local pears	75	80
Limes, per 100	.90	1.25
Prunes, Hungarian, box 30 lbs		1.00
Peaches, per box		.75
Northern apples, 40 lbs		1.25
Four tier belleflower		1.25
Local		.60

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08
Peaches, per box	.40	.75
Northern Apples, 40 lbs	.80	1.10
Local apples, per bx 30 lbs	.25	.40

Poultry.

Spring chickens	.16	.17
Hens, No. 1 per lb	.13½	.14
Ducks, per lb	.11	.12
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3 50	4 50
Calves	**4 00**	**5 00**

Hay and Grain.

Wheat hay	8.50	12.00
Barley hay		10.00
Alfalfa, large bales	10.00	12.00
Corn, Oct. delivery		1.35
Barley	1.00	1.02½
Wheat	1.50	1.60
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.60
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75
Chicken wheat		1.65
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, Sept. 10.

Butter still manifests a strong tendency, though it is quoted at about the same as last week, or only ½ cent higher. But this is in face of greatly increased Eastern receipts as well as heavy drawing on storage. Extra creamery sometimes commands slightly above the quotations.

BUTTER—Per lb.:

Creamery extras	.29	@29½
Creamery, good to fancy	.26	@28
Dairy extras	.24	@25
Dairy choice	.21	@23
Store	.18	@20
California storage	.24	@26
Eastern Creamery	.23	@24

CHEESE—Per lb.:

Cal. Creamery, mild new, extra	.14	@15
Cal. Creamery, mild new, choice	.13½	@14
Young America	.14	@15½
Eastern, New York Cream	.14½	@16

Eggs and Poultry.

Eggs are coming in in increased quantity but the market continues firm, with an increase in quotations since last week. Many storage offerings are made and usually quickly picked up.

EGGS—Per doz.:

Ranch, selected large	.35	
Ranch, good to choice	.30	@34
California Storage	.24	@27
Eastern	.20	@24

POULTRY—Old Roosters, per dozen, $4@5; young Roosters, $4.50@6; Fryers, $3@4; Broilers, large, $2.50@3.50; small, $2@2.50; Hens, $4@5.50; Ducks, per doz., old, $3@4; young, $3.50@4.50. Turkeys, nominal; Geese, per pair, $1.50; Goslings, $1.50@1.75; Pigeons, per doz., $1.50@1.75; do, old, $1.50.

Fruits and Vegetables.

Fancy four-tier apples command top quotations and are in great demand. Small fruits are abundant, and seldom command top quotations. Fancy peaches are kept fairly well cleaned up, most sales command full quotations. Table grapes in crates are in good demand and some extra fine tokays are in the market. Good Muscats also sell readily. The small seeedless grape is not in such good demand, and large stock is on hand. The wine grape market seems to be paralyzed by the winery combination fixing on such low prices and long time payments. Bartlett pears are practically the same as last week, the market being fairly easy. Cantaloupes, nutmegs, and watermelons are in good demand with supplies much lower than last week. Citrus fruit is becoming more scarce which applies especially to limes and lemons. A fresh consignment of limes is expected.

VEGETABLES.

Potatoes show a decided decline from last week's quotations, large quantities having been received. The demand for shipment seems to be at a low ebb. It is claimed that outside markets report stock selling below San Francisco prices. Sweet potatoes are in fair request at full quotations. One carload of Merceds sold readily at $1.85. The vegetable market shows no particular variance. Tomatoes are in good demand and sell at full quotations. Choice green corn commands top rates.

APPLES—Per box, common to choice, 25@75c; fancy, 85c@$1.25; Crab apples, per box, 40@75c.

PEACHES—Per box, 50@85c; carriers, 50@75c; large open boxes, 65c@$1; bulk per ton, Clingstones, $20@27.50.

PEARS—Per box, No. 1 Bartlett, $1.25@1.50; common, 75c@$1; other varieties, per box, 40@85c.

PLUM AND PRUNES—Per box or crate, 40@60c; large open boxes, 65@85c; bulk, per ton, $20@25, as to variety.

FIGS—Per box, 25c@$1.

CANTALOUPES—Per crate, 75c@$1.50.

NUTMEG MELONS.—Per box, 35@60c.

WATERMELONS—Per 100, 35@60c.

GRAPES—Per small box, 25@65c; crate, 50@85c; large box, 50c@$1, as to variety; Wine Grapes, per ton, zinfandel, $24@25.

NECTARINES—Per box or crate, 75@85c.

POMGRANATES—Per box, 65@85c.

QUINCES—Per box, 40@65c.

BERRIES—Per chest: Strawberries, Longworth, nominal; large varieties, $2.50@5; Blackberries, $3@4.50; Raspberries, $$5@8; Huckleberries, per lb., 7@8c.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, nominal, as to quality; Valencias, $1.25@2.50; Lemons, 75c@$2.50; extra, $3@3.50; Grape Fruit, $1@2; Limes, $6.

VEGETABLES—Tomatoes, per box, river, 40c@75; do, bay, 50@85c; Green Peppers, per box, Bell, 25@40c; Chile, 25@40c; String Beans, per lb., 2@3c; Wax, 2@3c; Lima, per sack, 75c@$1.25; Green Peas, per lb., 2½@3½c; Egg Plant, per box, 35@50c; Summer Squash, per box, 25@40c; Garlic, per lb., 2@3c; Green corn, per sack; 75@$1.50; crate, 75c@$1.75, Okra, per box, 35@50c; Marrowfat Squash, per ton, $10@$$12.50; Cucumbers, per box 25@40.

ONIONS—Yellow, per ctl., 50@70c.

POTATOES—Per ctl.: River Burbanks, 60c @$1; Early Rose, nominal; Salinas Burbanks, $1@1.50; Sweet Potatoes, $1.75@2 25.

Dried Fruits, Nuts, Etc.

Regarding the Dried Fruit market, the San Francisco Chronicle says:

Trading in Dried Fruits is steadily improving and general market conditions are now in excellent shape for the selling interests. Prunes are in sharper demand and the market is firmer, although quotably no higher. Bids are being more freely offered well up to the quoted basis prices, and holders are displaying some little indifference in parting with their stocks. The supplies of old-crop Prunes have been greatly reduced within the last few weeks, which has greatly strengthened the position for the new yield. Speculative buying of Peaches, Apricots and Pears continues brisk and full figures are being obtained for the desired stock. The new prices for Raisins has not caused any future trading as yet, the traders awaiting the prices to be named by the associated seeders. Honey is in liberal supply and fairly steady at quotations.

DRIED FRUITS—Prices for carload lots, f. c. be. at California common shippling points, in bags for 1903 crop, are, per lb., as follows:

APPLES—Evaporated, 5@6c; Sun Dried,

APRICOTS—Royal, fancy, 9@9½½c; choice, 7½c@8½c; Moorparks, choice, 9@11c.

PEACHES—Choice, 5¼@6½c; fancy, 7@7½c; peeled. in boxes, nominal.

PEARS—Choice, 6@7c; fancy, 8@9c.

PLUMS—Pitted, 5@7c; unpitted, 1@1½c.

RAISINS—Prices by the California Raisin Growers" Association on standard brands, 1903 crop. f. o. b. at common shipping points, are as follows: Loose Muscatels, two-crown, 6@6¼c; three-crown, 6¼@6½c; four-crown, 6¾@7c.

NUTS.—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian. nominal.

HONEY—New Comb, per lb., White, 12@13c; Light Amber, 11@12c; Extracted Water White. 6@6½c; Light Amber, 5½@6c; Dark Amber, nominal.

BEESWAX—Per lb., 30c.

Live Stock.

With supply and demand evenly balanced there is no change in the last week's market conditions.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin steers, 6½@7c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb; Hard grain-fed, weighing alive, 140 lbs and over, 5¾@6c; weighing under 130 lbs, 5¼@5½c; weighing 260 to 350 lbs, 5½c; rough heavy, 4½@5c.

BUTCHERS' PRICES.

Retail quotations for Meats, as furnished by the San Francisco Retail Butchers" Protective Association, are as follows:

BEEF—Prime Roast, 15@18c; Porterhouse Steak, 18@22½c; Tenderloin Steak, 15@18c; Sirloin Steak, 12½@15c; Top Round Steak, 12½c; Beef Stew, 10c; Corned Beef, 8@10c; Soup Meat, 4@10c.

MUTTON—Leg, 15c; Shoulder, 10@11c; Stew. 8@10c; Prime chops 12½@20c.

SPRING LAMB—Chops, 25c; Hindquarter, $1.25@1.50; Forequarter, $1@1.25.

PORK—Loin Roast, 15@18c; Leg Roast, 12½@14c; Shoulder Roast, 10@12½c; Chops, 15@18c.

VEAL—Loin Roast, 15@20c; Shoulder Roast, 12½@15c; Chops or Cutlets, 15@20c; Stew, 12½@15c.

Hay and Feed Stuffs.

HAY—Prices on new Hay, per ton: Wheat, $11@15; Wheat and Oat, $10@13; Oat, $9.50@$12.50; Barley, $8.50@11; Clover, $9@10; Alfalfa $9@11.50; Stock, $8@9.

STRAW—Good to choice, per bale, 45@60c.

FEED CORN MEAL—Choice grades, per ton, $33@34.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $27@29.

BRAN—Per ton, $23.50@24.50.

GROUND BARLEY—Per ton, $23@24.

MIDDLINGS—Per ton, $26.50@28.

BRAN—Per ton, $23.50@24.50.

CRACKED CORN—Choice quality, per ton, $33.50@34.50.

BARLEY—New crop: Choice, No. 1 Feed, $1.11¾@1.13¾; Shipping, $1.15@1.18¾; Brewing, No. 1, $1.20@1.25; Chevalier, $1.35@1.50.

OATS—Feed, good to choice White, $1.22½@1.32½; White Milling, $1.32½@1.37½; Red, $1.20@1.35; Black, $1.15@1.25 for Feed and $1.35@1.50 for Seed.

Beans—Prices per ctl; Large whites, $2.90@$3.10; small, do, $3.10@3.25; Pea, $3.40@3.50; Lima, $3.40@3.55; Red, $2.90; Pink, $3@3.10; Bayo, $3.40@3.65; Blackeyes, $2.75@3.10; Red Kidneys, nominal.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

COCOANUT CAKE—Best quality, in lots of ten tons and upward, $20 per ton; 5 tons, $20.50; small quantities, $21. Prices are mill rates and are subject to change without notice.

Cereals.

BARLEY—New crop: Choice, No. 1 Feed, $1.13¾@1.16¼; Shipping, $1.16¼@1.20; Brewing, No. 1, $1.20@1.25; Chevalier, $1.35@1.50.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.55@1.60; small, do, $1.75@1.80; white, $1.55@1.60.

RYE—Good to choice, per ctl: $1.20@1.25.

OATS—Feed, good to choice White, $1.22½@$1.32½; White Milling, $1.32½@1.37½; Red, $1.20@1.35; Black, $1.15@1.25 for Feed and $1.35@1.50 for Seed.

BEANS AND SEEDS.

Yesterday's business in Beans was somewhat of a holiday character and the general market was devoid of feature. There are several shipping orders at hand, and these have a strengthening influence upon values for present holdings. The arrivals of new-crop offerings are still limited to small quantities, which seem to have no depressing effect upon the general market. Seeds are largely nominal in price.

BEANS—Prices per ctl: Large Whites, $2.50@$2.85; small do, $2.75@3; Pea, $3.25@3.50; Lima, $3.25@3.50; Red, $2.90@3; Pink, $2.85@$3.05; Bayo, $3@3.40; Blackeyes, $2.50@2.85; Red Kidneys, nominal.

New Crop—Large White, $2.50@2.75; Blackeye, $2.50@2.75.

Hops.

The price for new crop is 22@23c per lb, according to quality.

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Eastern Markets.

Grain and Produce.

CHICAGO, Sept. 9.—Wheat showed but little activity at the opening today, and while it sold higher, influenced by firmer cables, it soon suffered a reaction on favorable advices from abroad and liberal receipts at primary points. December showed a gain of ⅛ to ¼ at 82, but dropped to 81⅝ under pressure of the local selling. The close was firm, with December ⅛ higher, at 82¼@82⅜, after having sold ⅛ higher on the bulge. The failure of predicted frosts to occur in the corn belt, together with easier cables, caused a weak start in corn, with local traders liberal sellers. Later in the session the upturn in wheat, with renewed predictions of frosts tonight and excessive rains, started prices upward, and the close was firm, with December at 51⅝, having sold up from 50⅝. Oats were very steady, although responding in some degree to the early slump in other grains. Commission houses were free buyers at times. December closed ⅝ higher, at 37½. The demand for provisions was exceedingly active, and prices showed a good advance throughout the list. Investment buying in October pork at one time sent that product up nearly $1 over yesterday's close. Final sales were at an advance of 62½. at 13.60. October lard closed 25 to 30 higher, at 8.30, while ribs were up 10 to 20, at 8.10.

Cash quotations were as follows: Flour was firm; No. 2 red wheat, 80½@82½; No. 2 corn, 51⅝; No. 2 yellow, 52⅞; No. 2 oats, 33½@34½; No. 3 white, 37@37⅛; No. 2 rye, 56½; good feeding barley, 47@49; fair to choice malting, 52@53.

New York General Market.

NEW YORK, Sept. 9.—Wheat—Spot steady. Options closed firm at ¼@½ net advance. May closed 89; September closed 87⅝; December, 88. Hops, firm; Pacific Coast, common to choice, 1902 crop, 21@26½.

Grain Movements.

Articles—		Receipts.	Shipments
Flour,	barrels	19,864	3,240
Wheat,	bushels	177,600	58,500
Corn,	"	1,231,000	230,255
Oats,	"	356,700	508,145
Rye,	"	5,700	900
Barley,	"	142,000	1,540

On the Produce Exchange today the butter market was steady; creamery, 15@19½; dairy, 13@17; eggs, firm, 17@18; cheese, steady, 10@11¼.

Chicago Live Stock.

CHICAGO, Sept. 9.—Cattle—Receipts, 18,000, including 2000 Texans; market steady to strong; good to prime steers, 5.40@6.10; poor to medium, 4.00@4.25; stockers and feeders, 2.50@4.15; cows, 1.50@4.40; heifers, 2.00@4.75; canners, 1.50@2.60; bulls, 3.00@4.50; calves, 3.50@6.75; Texas fed steers, 3.25@4.50; western steers, 3.25@4.60. Hogs—Receipts, today, 21,000; tomorrow, 20,000; market strong; mixed and butchers, 5.40@6.15; good to choice heavy, 5.70@6.00; rough heavy, 5.30@5.65; light, 5.80@6.20; bulk of sales, 5.60@6.50. Sheep—Receipts, 25,000; sheep and lambs steady to 10c lower; good to choice wethers, 3.25@3.75; fair to choice mixed, 2.25@3.00; western sheep, 2.75@3.50; native lambs, 3.75@5.85; western lambs, 3.75@5.25.

California Dried Fruits.

NEW YORK, Sept. 9.—The market for evaporated apples is quiet and unchanged under a light demand. New fruit is arriving in small amounts, but is usually of a poor quality and is moving too slowly to establish a range of quotations. Futures are weak, with prime for October and November delivery quoted at about 5½@5⅝; common are quoted at 4@5; prime, 5¼@5¾; choice, 6@6½; fancy, 6¾@7½. Prunes are steady to firm, at from 3¼ to 7 for all grades. Apricots are firmly held; choice, 9¼@9¾; extra choice, 9½@10¾; fancy, 11½@12. Peaches are steady; choice, 7¼@7¾; extra choice, 7¾@8¼.

ST. LOUIS WOOL MARKET.

ST. LOUIS, Sept. 9.—Wool quiet; medium grades, combing and clothing, 16@21; light fine, 15@17½; heavy fine, 11@14½. tub washed, 20@30; territory and western mediums, 17@18; fine medium, 15@17; fine, 15@16.

CITRUS MARKETS

ORANGE AND LEMON MARKET.

The auction markets the past week have shown a little better prices on good stock; sound, fair quality choice have brought quite satisfactory prices and a little extra fancy stock high prices. The supply in sight at the different auction points is small and the situation and market somewhat stronger. Cooler weather and less abundance of deciduous fruits are having a little effect. Western markets have been very slow, taking a few cars only. Desirable sizes are scarce and command fair prices where they can be gotten. Shipments have been light, averaging but ten cars daily for the last two weeks and the supply in California is nearly exhausted.

The lemon market is in fair condition, especially on 300 size. There is a difference of nearly $1.00 per box between 300s and 360s in New York market on foreigns, the last end of the crop running heavily to smaller sizes. Western markets are taking a few lemons at quite satisfactory prices where the stock is good quality and sound. It is very difficult to place low grade fruit. Indications are quite favorable for continuance of fair prices.

AUCTION SALES.

NEW YORK, SEPTEMBER 2.
Riverside Fr. Ex., La Mesa Valencias, $3. Golden Rule, $2.60.
Covina Fr. Ex., Butterfly Valencias, $3.05. Holly, $2.60.

PHILADELPHIA, SEPTEMBER 2.
A. C. G. Fr. Ex., Stag Valencias, $3.25. Pointer, $2.35.

BOSTON, SEPTEMBER 2.
Market weak.
Riverside Fr. Ex., Red Globe Valencias, $2.70.

PITTSBURG, SEPTEMBER 2.
Market steady.
O. K. Fr. Ex., Owl Valencias, $1.90.

CLEVELAND, SEPTEMBER 2.
Market declining.
A. H. Fr. Co., Palm Tree lemons, 90c. Lemonade lemons, 50c.

CINCINNATI, SEPTEMBER 2.
Market weak.
C. C. U., Windermere, La Marada lemons, $2.20. Standard, $2.

NEW ORLEANS, SEPTEMBER 2.
S. P. C. Fr. Ex., Tally-ho Valencias, $2.85.

NEW YORK, SEPTEMBER 3.
A. C. G. Fr. Ex., Blue Seal Valencias, $3.75. Red Shield, $2.45.

CLEVELAND, SEPTEMBER 3.
Riverside Fr. Ex., Red Globe Valencias, $2.35.

NEW YORK, SEPTEMBER 4.
Riverside Fr. Ex., Blue Globe Valencias, $3.40. Red Globe, $2.05.

BOSTON, SEPTEMBER 4.
Market steady.
C. C. U. San Merino, Titus Valencias, $2.75.

PITTSBURG, SEPTEMBER 4.
Market steady.
A. C. G. Fr. Ex., Red Shield Valencias, $2.85. Green Crown, $2.50.

CINCINNATI, SEPTEMBER 4.
Market steady.
S. A. Fr. Ex., Carlo Valencias, $2.30.

CLEVELAND, SEPTEMBER 4.
Market steady.
Riverside Fr. Ex., Red Globe Valencias, $2.35.

NEW YORK, SEPTEMBER 8.
Riverside Fr. Ex., La Mesa Valencias, $3.15. Golden Rule, $2.65.

PHILADELPHIA, SEPTEMBER 7.
Market strong.
A. C. G. Fr. Ex., Pointer Valencias, $3.05. Hunter, $2.55.

PITTSBURG, SEPTEMBER 7.
Market steady.
S. T. Fr. Ex., Choice Valencias, $2.65. Standard, $2.30.

NEW ORLEANS, SEPTEMBER 7.
S. S. Fr. Ex., Extra Choice Valencias, $3.10.

A largely attended meeting of wine growers was held at Stockton Saturday, to discuss the prices offered by the California Wine Growers' Association. The sense of the meeting was embodied in the following resolution, which was unanimously adopted: "Resolved, That it is the sense of this meeting that the prices offered for grapes by the California Wine Growers' Association and the terms with regard to the deferred payments are both unsatisfactory and unfair." A committee was appointed to discuss prices with the association, and money was subscribed to pay for the services of a man to develop independent markets.

The prices offered by the Association vary from $15 to $17.50 for dry grapes and $10 to $12 per ton for sweet wine, $8 per ton for Muscats. The prices which prevailed last year were $20 to $30 for dry wine, and $12 to $16 for sweet wine grapes. It is claimed by some grape growers of the North that this is an effort on the part of the Wine Growers' Association to discourage further planting of the grape. Southern California buyers at a meeting last Thursday in Los Angeles, decided to pay $15 per ton for Zinfandels, $14 for foothills and $10 to $11 for the white and black varieties of the lowlands. Last year the rate varied from $16 to $18.

CALIFORNIA POLYTECHNIC.

From Leroy Anderson, director of the California Polytechnic School we have received the following:

"Owing to some delays in completing the buildings it will not be able to open for students upon the date first advertised, namely, September 15th. The date of opening has been postponed to Wednesday, September 30th. All of the contractors are finishing their work as rapidly as possible and we feel quite confident that we can receive students on this date. We do not expect the recitation building to be completed but with one or two rooms in it ready for use and the dormitory completed, we can begin the work in a fairly satisfactory manner.

Applications for admission continue to be received and catalogues are being mailed to inquirers. These are sent free of charge to any one asking for the same."

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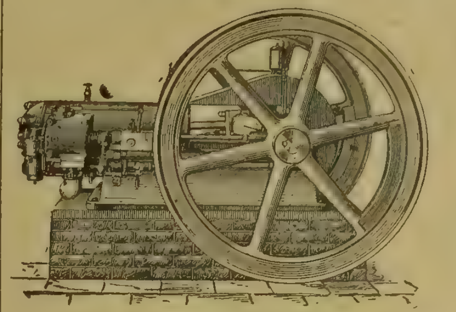
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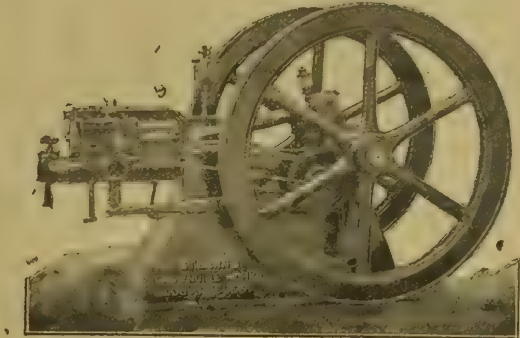
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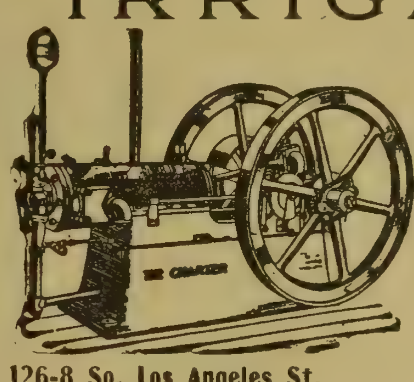
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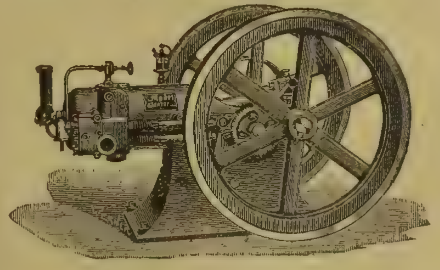
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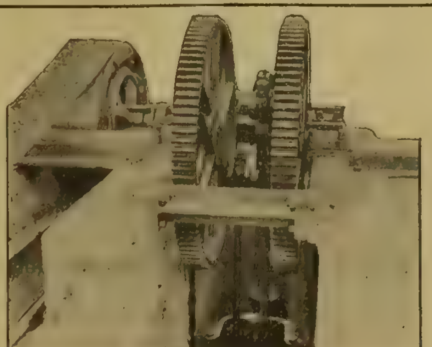
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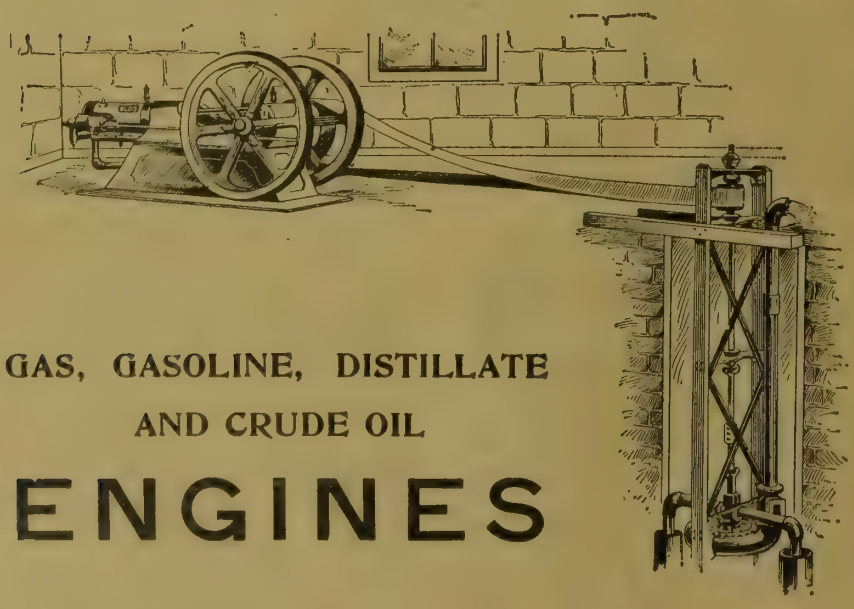

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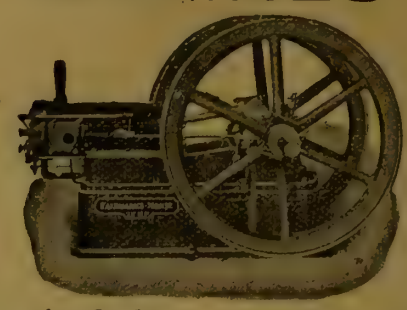

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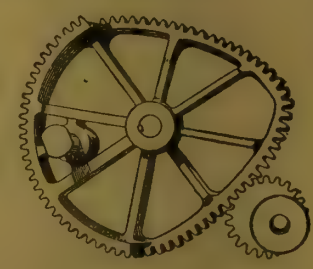

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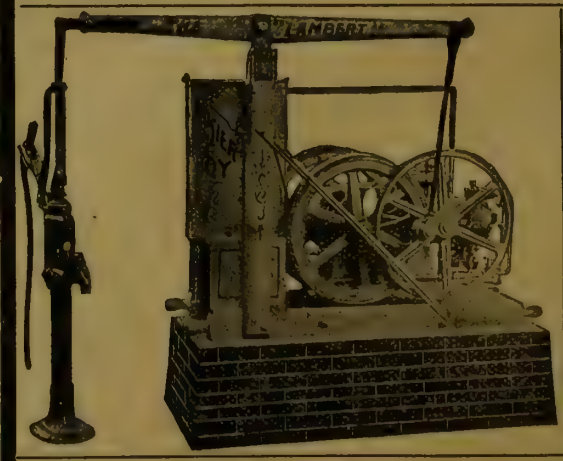

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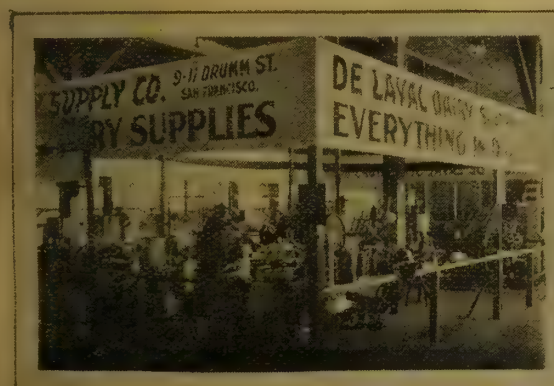
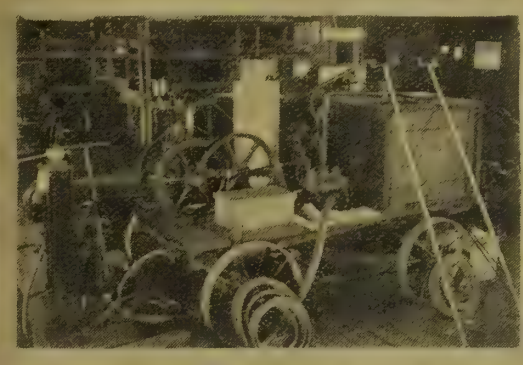
Vol. XXI—No. 12 | LOS ANGELES, CAL., FRIDAY, SEPTEMBER 18, 1903 | Subscription $1 a Year

SOME PREMIUM WINNERS IN THE PAVILION.



De Laval Dairy Supply Co.
Exhibit of Creamery Supplies.

Samson Iron Works.
Exhibit of Engines and Centrifugal Pumps.



Bean Spray Pump Exhibit.

STATE FAIR.

One unfortunate feature of the state fair is the locating of the pavilion in the city of Sacramento and the stock exhibits all at the grounds three miles away. It divides the attention and we believe detracts from the interest in the fair. The evenings at the pavilion are made quite society functions with various vaudeville performances to attract the crowd. The exhibits of products and manufactures were instructive as to state resources. Many of the booths were erected by local merchants, and arrayed in beautiful designs which were more of an advertising nature. The cuts above show a few of typical machinery exhibits.

At the grounds were many fine animals though all classes were not fully represented. But the attendance and the possibilities of good to the stock breeder were not as great as they should have been.

The beef breeds of cattle were probably the best represented of any kind of stock. Gov. Sparks of Nevada had a magnificient exhibit of Herefords Probably the finest exhibit ever made in the state. Joe Marzen of Lovelock, Nevada also had a large exhibit of his prize winning Short Horns. It consisted of three cars of beautiful stock. In dairy breeds the Holsteins were represented by Mrs. Gubbay and J. A. Rea of San Jose. In Jerseys Alex Chisholm of San Jacinto, James Horsburg of San Francisco. Thomas Waite of Perkins made exhibitions of fine stock.

In swine the classes were fuller especially in Berks and Poland-Chinas as may be seen in the premium list which appears on another page there were more exhibits in those classes. Clark & Bishop, Poland-China breeders of Kingsburg had a fine herd as may be seen from the winnings. Their ranch is in some of the richest lands of Tulare county and of their 320 acres they have about 150 in alfalfa. Their winnings at the fair show. 2nd. on Boar 2 years and over. 1 and 2 on boars 1 year and under two. 1 and 3rd on boars six months and under 1 year, 2nd on boar under 6 months, 1st, sow 2 years and over, 1st and 2nd sow 1 year and under two, 2nd and 3rd, sow 6 months and under 1 year, 2nd on sow under 6 months, 1st on boar and his get under one year. Silver medal on Boars any age. Gold medal on sows any age.

First Prize O. I. C. 2-Year Sow, Bettey,6919, property Alex. Gordon, Hueneme.

The herd of Poland Chinas owned and exhibited by W. R. McCaslin of Consumnes, Sacramento county, is worthy special mention. Mr. McCaslin carried away many premiums as may be seen by the list on another page.

In the Berks C. W. Reed of San Francisco, Thomas Waite of Perkins C. C. Perkins of Sacramento and W. C. Murphy of Perkins made fine exhibits. The Thomas Waite & Son exhibit had in it a fine boar Baron Victor, bred by A. Lovejoy & Son of Rosco Ill. a typical Berkshire with arched back and good length and typical head.

Messrs. Waite also had some prize winners in the Southdown Sheep. Gold medal champions for buck, champion flock, ewe and lamb, buck and lamb.

In Essex hogs Geo. Bement of Seminary Park, Cal. made a large exhibit.

In Ohio Improved Chester Alex Gordon of Hueneme won over a dozen prizes and a gold medal. Mr. Gordon has great faith in the O. I. C's and says they are admirably adapted to California conditions.

C. P. Bailey of San Jose made an exhibit of Persian sheep which attracted much attention also some beautiful Angora goats.

In draft horses the Oakwood Stock farm of Lathrop exhibited some magnificient Percheron. One, a French Percheron was imported direct from France.

H. S. Pankey, of Santa Ana, Clyde Chipman of Covina, R. W. Hanson of Rio Vista also exhibited Percherons.

PRIZE-WINNING STOCK AT THE STATE FAIR GROUNDS.

Second Premium 2-year-old Shorthorn, property of Isaac Bird of the Chowchilla Stock Farm at Merced.

First Premium 3-year-old Holstein, Gaiety of La Siesta, property of Mrs. M. E. Gubbay, San Jose

First Premium Jersey, 3 years and over, Dot's Violet W., property of Alex. Chisholm, Jacinto

First Premium 2-year-old Hereford, Lady Hesiod, property of John Sparks, Reno, Nev.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 18, 1903

Circulation this issue 8,600

The commission for which Secretary Root went to England as one of the two American representatives and which is now in session, will, in all probability, reach no satisfactory settlement. It is composed of the two Americans, an Englishman and a Canadian. As there is no fifth member the probabilities are that no decision will be reached.

The outcome of the corn crop is awaited with much anxiety by the business men of the country. If there is a reasonably good crop with a fair price, as is likely the case we shall see a continuation of good times. But let frost catch the corn unmatured making two successive bad years, and we shall see the pendulum of prosperity begin to swing back.

WALNUT GROWERS' ASSOCIATION

The Southern California Association of walnut growers held an important session in this city this week, the purpose being to fix prices for the crop in hand and to discuss the parasite, which is blighting the trees and destroying them. It was stated that the blight on walnut orchards will reduce the yield this year over fifty per cent and in some sections almost a total loss of the crop will result. A resolution was passed offering $10,000 to any one who will find a remedy for the blight.

Prices were fixed for the product of 1903 as follows: Twelve cents per pound for "hard shells," and twelve and a half cents per pound for "soft shells." Ten and ten and a half cents respectively for second class nuts.

Responding to a request from Secretary Wiggins of the Chamber of Commerce, a ton of awlnuts was voted for exhibition purposes at the St. Louis Exposition, to be contributed proportionately by the several associations.

Secretary Wiggins was also authorized to arrange for an exhibition at St. Louis of the different processes through which the nut passes, in grading and cleansing from the trees to the retailer.

TECHNICAL TRAINING IN AGRICULTURE.

Numbers of our state universities are creating agricultural departments for the preparation of young men in technical agricultural training.

The purpose of this movement is twofold. First to fill a want in our educational system and to enable the farmers to make larger crops with greater certainty. Successful farming is simply applied science in which there is ample scope for the exercise of all the intellectual faculties, and for the application of all learning on hand or available.

The man who brings to his work the qualifications received by education soon learns to respect his calling. The farmer who can unite his faculties with the elements in nature is sure of success and soon becomes so infatuated with his work as to be proud of his co-partnership with nature.

President Roosevelt happily expresses the thought when he says: "the laboring man who feels a just pride in his avocation is entitled to the respect of the world because he holds labor honorable."

No man was ever successful in any business who held that business in contempt. No man can be more certainly successful than a farmer who feels pride in his profession. Laudable pride is a diffusive stimulant and should be taken regularly in full doses.

THE IRRIGATION CONGRESS.

A convention of more than usual interest is in session at Ogden Utah, as we go to press. It will be composed of men of national reputation whose information along lines to be discussed by this National Congress is a guarantee of the worth of their utterances.

The delegation from this state includes the following well known gentlemen:-J. B. Lippincott, F. L. Alles, J. Ross Clark, L. M. Holt, S. W. Ferguson, C. M. Heintz, Ferd K. Rule, C. B. Booth, and J. W. F. Dis of Los Angeles, W. E. Smythe, of San Diego, J. Fairweather of Reedly, W. S. Melick of Pasadena, C. M. Wooster and E. A. Hayes of San Jose, Scipio Craig of Redlands, G. H. Maxwell of San Francisco, C. C. Jones of Keswick.

The dispatches state that it is expected that fifteen-hundred representatives of boards of trade, commercial clubs, chambers of commerce and business organizations of all kinds and of state and municipal governments of the great West will be present and will take part in the four day's discusion of iriation. The speakers on the various subjects will include besides Secretary of Agriculture Wilson. United States Senators Clark and Gibson of Montana, Dubois, of Idaho, Warren of Wyoming, and Burton of Kansas. Senators Kearnes and Smoot are expected to speak informally. Every phase of the subject of irrigation will be discussed, and the closely allied subject of colonization of the great plains and ranges of the west will receive much attention.

Practical illustrations of what irrigation is doing for the West will not be lacking. From all quarters have gone to the congress large exhibits of grain and fruits grown on soil that a few years ago was considered useless, to compete for the prizes and valuable cups offered. The horticultural exhibits bid fair to be the most unique as well as most elaborate ever shown. From across the great American desert, drawn in six "prairie schooners" is going an exhibit of fruit and grain grown in the midst of alkali wastes. Practical methods of irriation will be given, and a good part of each day will be devoted by the delegates to this feature.

Another important subject that will come up is the question of affiliation with the transmississippi congress, and it is expected that before the congress adjourns that some definite action will be taken.

Sugar, "all grades and all lists," advanced 10 cents a hundred pounds without any apparent cause other than that the Western Sugar Refining Company say so.

The good citizen is the man who, whatever his wealth or his poverty, strives manfully to do his duty to himself, to his family, to his neighbor, to the state.—President Roosevelt.

TELL THE GLORY OF THE STATE.

The people of California should never tire of talking the splendid points of their magnificent state. Until one has resided here for a year, or more, and then "gone back East" to spend a few months does he realize the wondrous advantages California possesses in the way of climate, fruits, flowers and other necessary products.

A writer in the current number of Out West contrasts the climate of Rome, Italy, with the climate of Los Angeles, California, showing the advantage this city and state possesses in the matter of climate. It is to be presumed the writer speaks from experience, and the comparison is one certainly to make every lover of California glad that he lives in such a beautiful sun-kissed state. Just home from an Eastern trip, of some considerable extent, the writer can say of a truth there is no place in this country that will compare with Los Angeles and its suburbs for comfort of living and beauty of surroundings. We have one suggestion to make to our campaign speakers when next they mount the platform in foresenic debate, and it is, to talk less politics and more about the glory and the possibility of the state. Let the campaign speakers go up and down the land and proclaim the marvelous progress, the magnificent development of the grand state of California. No devastating floods to wipe out the earnings of a lifetime; no cyclones to destroy the home and maim or kill the occupants; no blizzards to freezze the blood as the laborer goes about his daily work in winter. There is, of course, no campaign on this fall, but next year will soon roll round where the din and harangue of orators will sound upon the listening ears of the multitude. Why not make that a campaign of education, tell of great things done, of good accomplished, of splendid results achieved, and of brighter things for the future.

Now if there was a great state scandal brewing somewhere, how easily it would worm its way into politics to the disgust of all decent people. If somebody had stolen a half million, or a state official had accepted a bribe, or there was waste and extravagance somewhere or incompetence that made for disaster—then a campaign on so-called state issues would come naturally enough.

But there has been honesty and integrity and good judgment in high places; economy has been practiced without parsimony; the state's institutions have grown, new avenues have been found for state usefulness, and all without danger.

The state of California is a veritable young giant. Its broad foundations were not laid too deep. It will become the "Empire of this Country." This is our thought in the absence of anything more interesting to discuss, talk up the advantages of California by so doing the people of the state will be educated and the people out of the state will be attracted to our country by the novel method of campaigning adopted to stir up state pride and to scatter broadcast information so valuable to every one. It would be novel and interesting. Perhaps the people would like the change. It would certainly make no difference to the men who would get office just the same as they would after a blood-sweating campaign of the regulation style.

Anthrax, dreaded by cattle owners, has broken out on a stock farm near Chicago.

The house cleaning now in process in the postal service will have one result which the country will most rejoice to witness, viz: the punishment of rascals in high places and the beneficial effect which will result in causing would be thieves and plunderers of the public purse to stop and consider what their end will be. The severer the punishment the more salutary the lesson.

If the Turkish troubles create a general Eastern war, as may be the case if Bulgaria inaugurates a campaign against Turkey, the demand for American products in foreign markets will be vastly augmented. While war is to be deplored, we can not overlook the fact that our prosperity has been heightened by the recent English troubles in South Africa.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

THE CALIFORNIA FRUIT EXCHANGE.

While all are standing loyally and successfully by the California Fruit Agency tney should not forget that other co-operative institution, the California Fruit Exchange. This institution has been under the management of A. R. Sprague, since its inception than whom there is not a more eloquent and persistent advocate of co-operative methods in the state. At every meeting of deciduous fruit growers attended by Mr. Sprague in the past, he has done effective service for the citrus fruit growers as well, and the Cultivator willlingly gives publicity to the latest statement regarding the business of the deciduous fruit exchange for the benefit of the increasing number of subscribers in all portions of the state. The Board of Directors have just sent out the following prospectus:

From various sources in this state and others, and from foreign countries, are coming inquiries concerning the California Fruit Exchange, wishing to know what its methods are, what it has accomplished, and what it aims to accomplish. For convenience it seems best to issue a brief statement in answer to these queries.

The California Fruit Exchange is a strictly co-operative organization of fruit growers, to save themselves the profits usually absorbed by commercial paskers and shippers of fruit, and to secure prompt and efficient sales of their products, and quick and honest returns.

It is composed of large individual growers and shippers, and of members who represent local associations of growers.

These local associations are formed to secure the proper preparation of the fruit for market in car lots, and these cars are then turned over to the central association—The California Fruit Exchange—to be marketed.

This has been found most satisfactory wherever tried. Each local association is entitled to one representative membership in the body constituting the California Fruit Exchange.

The customary brokerage is charged for sales of fruit, and all profits resulting from the economies of the business and discounts from purchase of supplies in large lots, are divided as dividends in the proportion which each member's shipments bear to the whole volume shipped.

All local questions are settled by the local associations, and all matters affecting the general business are determined by the Central Exchange.

Its Eastern agents are carefully supervised and prompt information and reports of market conditions are always available.

No one method of sale is insisted upon except that the money must be received when the fruit is turned over to the buyer, and until that time it remains in the hands of the Exchange or their agents.

As the fruit is good security for reasonable amounts, advances can readily be had with the customary conditions.

This system, which has worked well for so many years in both citrus and fresh fruits, is the only protection which California growers can have from the irregular and dishonest practices which so often disgrace the fruit business in the east. By this system the Fruit Exchange in two years has grown to be the third largest shipper of California fresh fruits. Success is the best recommendation.

It makes no war upon the commercial packers and shippers; on the contrary it strives to be at peace with them, and in all things in which their interests are common it seeks to work harmoniously, but it stands, first, last, and all the time for the protection of the grower, both in matters of information and economical and advancement of the general orchard interests of California. When the time comes that under this or similar system, all the fruit interests of the coast, both of growers and commercial shippers as

well, shall be united to promote the interests of California fruit in the markets of the east, the distribution through their own agencies will be complete, their advertisement of California fruit will vastly stimulate consumption and the economy of marketing it will save hundreds of thousands of dollars to the fruit growers of the state.

If the corn crop is harvested without loss the tourist crop in California will be simply immense.

The Inyo County Bee-keepers Association has sold its output at $201.00 per ton, delivery to be made not later than September 30th. The Gregory Fruit Company of Redlands is the purchaser.

A Kansas clergyman has refused an ofier of $3000 a year at baseball to refain his present situation at $500. An Iowa Supreme judge receives $4500 per year and has been offered quite as large a salary as a baseball pitcher.

Unless the Southern Pacific and Santa Fe passenger department in Los Angeles and San Francisco have been misled the coming winter months will bring to Southern California the largest influx of tourists in the history of Western travel.

The largest tree in the Tulare, Cal., forests has been felled and will be exhibited at the World's Fair, St. Louis. The tree is 28 feet in diameter. It was necessary to construct special machinery to cut the tree so that it could be placed on cars for transportation.

The Corona Courier is responsible for the statement that large herds of cattle are being shipped into San Jacinto, where Francisco Pico, owner of one of the biggest ranches in that district, has decided to go into the cattle business and let dry farming go for awhile.

Throughout nearly the entire United States the annual state, district, and country fairs are in progress at this time and will be for the next three or four weeks on the racinc coast. The exhibits are exceptionally fine and large, especially in stock and farm produce, and the attenuance in each is far above that of any other year.

Governor Pardee is taking great interest in the subject of irrigation. He expressed the hope that before the end of his official term he will see the proposed giant irrigation system in full blast in the Sacramento valley. This system contemplates commencing in a large reservoir in the Clear Lake region and a canal five miles long on the west side of the Sacramento valley.

The growth of the salmon packing industry on the Pacific coast, from its inception in 1866 to the close of the season of 1902, is shown in a tabulated statement recently issued by the Alaska Packers' Association. The total pack in the thirty-seven years reaches the enormous figure of 48,221,381 cases. Operations first began on the Columbia river, the aggregate pack to the close of 1902 reaching 14,247,494 cases. Although the Alaskan fisheries were not exploited until twelve years later, the pack from the northern waters exceeds that of any other district, yielding from 1878 to 1902 a total of 15,649,876 cases. The newest field is on Puget Sound, where extensive operations were not begun until 1891. In twelve years the Puget sound pack totals 4,596,472.

The long list of special expositions held in New York city is to have an addition in January, 1904, in a National Fruit and Wine Exposition. It will be held January 18th to 30th at the new Herald Square Exhibition Hall at Broadway, Sixth avenue and Thirty-fourth street. Its projectors say that among the responses received to their invitation to individual fruit growers, packers and shippers, and associations of them, and to wine manufacturers, to exhibit, are many evidences that the exposition will be seized as an opportunity by the boards, of trade, promotion committees, county commissioners, fruit associations and other commercial bodies to advertise in and through this metropolitan show display all of their home resources and attractions, as well as horticulture, its products and auxiliaries.

Coast News and Notes

By R. A. Dague, 1130 Eddy St., San Francisco

Late reports from Oregon say that the recent hot weather has injured the prune crop of that state.

The San Jacinto cannery is turning out 5,000 cans of peaches per day, and is refusing peaches because it cannot get sufficient help.

Attorney General Donovan, of Montana has decided that all dairy cows afflicted with tuberculosis in that state must be slaughtered.

The total shipments of fruit this year as reported by the California Fruit distributors up to this date have been 4,865 cars as against 4,750 the same date last year.

California produces one fourth the beans raised in the United States. We produce more wine, raisins, plums prunes oranges and honey than all the rest of the union.

The National Bankers Association will meet in San Francisco Oct. 20, and remain in session three days The Association has a membership of 20,000, representing 7,000 banks.

The late arrest at Oceanside of ten Chinamen and two Mexicans has brought out the fact that there is an organized system in force for smuggling Chinese into the United States

Heldsburg last year licensed the slot machines and derived a revenue of $1,400 per year. Public sentiment condemned the machine, the licenses were revoked and the machine must go.

The market for California deciduous fruits in the East is growing steadily larger. The average shipments are one hundred car-loads per day and the total for the season will not be less than 8,000 carloads.

The Woodland Cannery has transacted a good business this summer, up to this date the run has been about 9,000 cans of apricotts and 10,000 cans of peaches. The cannery will begin this week on tomatoes.

One day last week the "Silesia" left San Francisco for Europe loaded with 600 tons of "carry-over prunes" A few days beore the "Texas" sailed loaded with 11,374 packages. The carry over prunes are leaving the coast rapidly.

Coinage at the San Francisco mint for August was $2,548,000. Of this amount $2,004,000 were coined into Phillipine pesos. On Sept. 2nd. the mint at Philadelphia turned over to the steamships for Manila, Phillipine coins to the amount of $928,650.

A California professor says an acre of eucalyptus trees will produce each year the equivalent of thirty tons of coal. He advises the planting of eucalyptus in this state and says if that is done no worry need be indulged in over the exhaustion of the coal fields.

From now on until the middle of next month there wil be no salmon in the market. The closed season began last week and will continue until October 16th. Any person catching or disposing of the fish during this time will be subject to a fine of $200.00

The effort to stamp out a Foul Brood in the Fresno apiaries, mentioned in these columns some time ago was not successful. F. G. Story, the inspector, reports that out of 1,555 stands inspected he found the disease in six stands. The disease is highly contagious.

H. E. Huntington's plans involve the expenditure of millions for taking water from the San Joaquin river to furnish power for his immense electric projects in Central and Southern California. There are to be canals and tunnels and immense reservoirs and three power plants. It is a collassal undertaking.

The Chamber of Commerce of Boston has made public the result of its investigation as to the apple crop for this year. The report says apples and in fact all fruit is short in Great Britain. All Europe is short on fruit except oranges and Almeria grapes. The apple crop of the United States and Canada will be large.

A flock of ostriches at Phoenix. Ariz., now numbers more than 1,000 birds.

Clearings of the San Francisco banks for August were $123,825,904, against $107,825,113 for the same month last year.

W. O. Emerson, of Haywards, has raised this year a fine crop of quinces Several specimens of the fruit weigh more than a pound.

The California Wine Association which has a capital stock of $10,000,000 will establish a winery at Hercules in Contra Costa county. The directors are: I. W. Hellman, H. E. Huntington, Antone Borel, Albert Leachman, H. Van Bergen, J. Frowenfeld, Percy G. Morgan, P. C. Rossi, C. Schilling, J. J. Jacoby, and I. W. Hellman Jr.

Grape prospects are good everywhere in the state except in Santa Clara county. Here the leaves fell off and the fruit shriveled up in some parts of the country. The general crop, however, in the state wil be large. Last year 350,000 tons of grapes were crushed from which twenty-five million gallons of dry wine and 15,000,000 gallons of sweet wine were obtained.

J. A. Filcher and Frank Wiggins Commissioners are determined that California shall lead all the states at the St. Louis exposition. Among other striking things they will provide will be a mammoth cheese. The milk of 400 cows for two days will be required to make the cheese which will weigh a ton. They will also have on exhibition a sea bass that will weigh 450 pounds. The large fish has been mounted.

A. C. Bloom, of Sacramento county believes that a certain parsnip causes the death of cattle. The matter was referred to Prof. H. M. Hall, botanist of the State University. The Professor say s the parsnip is technically known as Ciuta Bolanderi and is one of the water hemlocks. The plant is poisonous to stock. The symptoms are:- Muscles begin to twitch, eyes water, animal excitable, increased rate of breathing and spasms. The treatment includes the giving of doses of milk and lard.

Owing to good results from past efforts the California promotion committee is preparing to re-double its efforts to induce immigration to this state, especially to the Sacramento Valley. They wil work with the Sacramento Valley Development Association for a time. During July advertising literature was sent to 2,500,000 persons. B. E. Hutchinson of Fresno who went east as a representative of the Association, has already sent more than 200 people to the state who will be permanent settlers.

The first course of forestry instruction under the auspices of the California State University was given this summer. There were but twenty students, but it was a beginning. It is high time a movement was made to preserve the forests and start new ones. The forests of Michigan, Wisconsin and Minnesota, originally contained 350,000,000 feet of lumber, Three fourths of it has been cut. The remainder is not marketable. More than half the yellow pine of the South is gone and the forests of the Pacific Coast are fast going.

Santa Barbara will soon have an industry the first of its character in the world. The Carpenteria wharf, says the Santa Barbara Press, together with fourteen acres of land were sold by Frank Smith to Albert Carter of Los Angeles. On a portion of this land there will be installed in the near future the first solar furnace plant for the manufacturing of salt from sea water The process is a new one and has been thoroughly tested on a small scale. The plant to be put in at Carpenteria will be a large one, and the output will be limited only by the quantity of sea water that can be pumped into the great reservoir.

The Isleton Creamery, on the Sacramento river, is reported to be making from 1,400 to 2,000 pounds of butter daily.

The ship, Star of Russia, recently brought to San Francisco, from Alaska, 28,000 cases of salmon. She has returned for a second cargo.

The hop harvest is ended. Owing to the failure of hops in England and the poor crop in Oregon, California growers are hoping for higher prices.

Dr. Charles H. Blemer, State Veterinarian, has finished his inspection of cattle in Inyo county. He says the disease that has carried off so many cattle is undoubtedly anthrax in an aggravated form. The trouble will not cease until cold weather comes.

For the first time the United States government recently refused to admit adulterated wine into San Francisco, under the pure food law. A lot of white wine from Bordeaux, France, was analyzed, and was found adulterated with acid and was refused entry.

The largest run of salmon known in many years is now on in the Sacramento river and in the San Pablo and Suisun bays. The Fish Commissions claim the credit is due to the artificial propagation which they have carried on for several years in these waters.

The dried fruit market in San Francisco had last week quite a little boom. Evaporated apples brought 4½ to 5 cents; peaches 5½ to 6; quartered pears 6; and prunes 3½ to 4. As usual buyers think the price will tumble, while producers look for an advance.

Later reports than those heretofore given in these columns of the yield of wheat in the nortnwest this year are as follows: Washington, 19,100,000 bushels; Oregon, 11,400,000 bushels; Idaho, 4,250,000 bushels. This is about twenty-five per cent. below that of last year.

The newly incorporated Jackson-Granger dairy, whose main office is at Alvarado, has leased 340 acres of land and will stock it immediately. A citizen of Sunol has leased 428 acres adjoining the Jackson-Granger farm, and will also go into dairying extensively.

The California raisin crop for this year is estimated at 4,500 carloads. The prices set by the California Raisin Grower's Association for seeded raisins is 7 1-2 cents for fancy and 7 1-4 for choice. Last year the prices were 6 7-8 cents for fancy and 6 5-8 for choice.—Orange News.

C. H. Bentley, manager of the sales department of the California Canners' Association, says there will be a shortage of canned apricots, and that the price will advance. He adds that this season has developed an increased demand for canned fruits of all kinds. The demand from England is larger than ever before.

San Joaquin county the largest shippers of potatoes in the state will this year, from figures obtained, yield a greatly decreased acreage from last year. In 1902 there were 28,000 acres planted as against 15,000 this year. Potatoes are now selling at from 85 to 90 cents a sack, as against 35 to 40 cents last season, says a San Joaquin exchange.

A course of instruction in farming will be given in the agricultural department of the State University, beginning October 6th, and closing December 17th. The course will embrace every conceivable detail of the farmers' work, from animal industry to insect preventives and dairy bacteriology. Circulars will be sent to all who apply, explaining the course of study.

A correspondent from Los Gatos writes of the general prosperity attending that locality. The canneries are busy on pears and lemon cling peaches. Grape packing will commence in about another week. The cannery contemplates making a run on tomatoes commencing about the 25th. of September, and operating possibly through the month of October, depending upon the supply of the fruit. Canning to date is reported to be seventy thousand cases, and about sold out. Daily shipments are going forward to various points, both domestic and foreign.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS

(Continued.)

We have already learned the striking peculiarities of the great locust order—Orthoptera. We remember that they, like the lace wings have biting mouth parts and like one sub-order of the lace wings pass through incomplete transformations. The striking difference between Orthoptera and Neuroptera lies in the front or primary wings. We remember that these are straight and thick in the Orthoptera, reminding us of the thick wing covers in beetles. These thick, parchment-like wings are known as tegminae and are very different from the hind wings while in the lace wing flies the hind wings are very much alike.

* * * *

Earwigs—These are very rare insects not only in California, but in the whole country. In a general way they remind us of the rove beetles, as their upper wings are very short. Of course they are not beetles at all as they go through incomplete transformations. They are very easily identified, as they have appendages at the tip of their body which resemble forceps. Their rear wings have many radiating veins, very different from the other insects of this order. These fold in both directions, thus reminding us again of beetles. The complex nature of this hind wing leads some entomologists to classify them as a separate order. So far as I know these insects do very little harm, though it is sometimes stated that in Europe they are injurious to fruits and other vegetables.

* * * *

Cockroaches—Few people are there but what are familiar with the common cockroaches. They are flat and very thin so that they can hide in very slight crevices. They are frequent in houses and are often met in cellars and in storehouses, especially where sugar and other like articles are kept in store. They are very general feeders and few articles either of pantry, cellar, or of out door nature go amiss in their dietary. Many of these are wingless, though doubtless all once possessed these organs. The cockroach lays its eggs all at one time. These are encased in a membrane and are much the form of a bean. Cockroaches are not difficult to destroy, as they take greedily to sweets mixed with poison and are also repelled by the use of insect powders.

* * * *

Praying Mantis—In California and the Southern United States, there exists an insect which is so peculiar that it must always attract attention and excite interest. Its prothorax and front legs are greatly developed. These front legs are fitted to act like jaws and the insect uses them to grasp its prey. The reason that they are called Praying Mantis is from the fact that they appear to be on their knees or that as they raise the forward part of their bodies, they remind one of the attitude of devotion. Devil's-horses, or rear-horses are other names given to them. Their abdomens are large and flat and are covered by their wings when they are not flying. They look formidable but are entirely harmless as far as man is concerned. Unlike all other insects of this order they are our friends and not our enemies. They live wholly on other insects and must do a great deal of good in destroying our insect foes. These too deposit their eggs in great masses something as do the cockroaches. I have often nad these egg-masses in boxes in confinement and as soon as the first eggs hatched the young insect would stand in wait and would eat up all his brothers and sisters as soon as they came from the eggs. I know of few insects that manifest greater ferocity than do these giraffe-like insects. I have said that they are our friends, but like the dragon flies they are not always discreet in their food taking and so many a honey bee becomes the victim of their hungry voracity. As I stated in speaking of darning needles I have little doubt but that their benefits are far in excess of any evil they may do.

* * * *

Walking Sticks—Every person who has sought the seclusion of bush or forest has met, not infrequently, these curious spectre-like walking sticks. How well they are named. They mimic almost perfectly a straight stick, appended to which are six stick-like legs and two stick-like antennae. They feed wholly upon vegetation and were they more numerous might do considerable harm to farmer and gardener. Even though they have long legs they are slow and awkward in their movements. Thus they cannot escape danger by flight; neither are they provided with any defensive organs. They are, however, well protected in their astonishing mimicry. When young they rest usually upon the leaves and are green in color and so when not in motion are effectually hidden. As they grow older they become gray or brown and thus again are not distinguished by bird or insect from the twig on which they rest. They never possessed wings and so are not rapid of migration. Their eggs are very large and I have known them to be thick enough in trees so that the dropping of the eggs would suggest a slight shower.

In our next article I will consider the three remaining families, the locusts, grasshoppers and katydids, and the crickets, which are by far the most destructive families of this order of insects.

* * * *

THE NITROGEN-FORMING LEGUMES.

Gen. Paul Jennison of Covina wishes to know where the nitrogen is stored in peas and other leguminous plants. He asks if it is in the roots, tubercles, or in the part above ground or in the entire plant. Gen. Jennison has thought of using the vines for hay and depending on the roots for nitrogen.

We must remember that the nitrogen of the air cannot be taken and used by most plants. They can take the nitrogen only in combined form. The bacteria—the little microscopic plants, that fix themselves on the roots of legumes can take this nitrogen and combine it, which they do, and this is stored in the liquids of their bodies. In this combined state, it is constantly passing to the sap of the legume which harbors the bacteria. It now passes to all parts of the plant which it nourishes and which grows with surprising vigor because of this needed nourishment. Of course not a little passes to the peas themselves, though much remains in the roots and a large portion in the vines. To get the most fertility, all should be plowed into the soil. If however, it is desired to feed the vines and peas to stock we can receive a double benefit, feed our stock and also secure a very rich stable fertilizer for our land. Rich food makes very rich manure. Peas and pea vines help form a very rich food regimen. It may pay to pick the peas and sell them as they may be worth more to sell than to use as a fertilizer. Of course if they are sold off the farm they are lost to it, but even then we must remember that we have stored up a large amount of nitrogen from the air in the remaining roots and vines. It only remains to be said that the tubercles which house the bacteria are doubtless excrescences caused by the irritation of this bacillus.

* * * *

FENNIGREEK.

This new legune is attracting a great deal of attention at the present time. It is said to make an astonishing growth and is recommended as the very best legume to use in enriching the soil. It must be remembered that most legumes are supposed to have their own specific bacillus, which can thrive only upon these especial legumes and so are of no usé to others. For this reason I have often urged that our orchardists and other ranchers decide once for all what legume they will use to enrich their soil that they may always be sure to have the specific bacteria which works in connection with this special legume. Peas grown where peas have never been grown before are likely to make only a feeble growth as they are without the bacteria neces:ary to the formation of nitrates or combined nitrogen. In this case it is necessary to get soil where peas have been previously grown and sow the very slightest amount of this where the peas are to be planted. It is supposed that in case of the new plant, fennigreek, the burr clover bacillus, which is in all our soils, finds ready harbor and a congenial food plant, and thus this new plant is already for the best work. It is to be hoped that it will continue to give the satisfaction promised.

* * * *

A GRAPE FRUIT SCALE.

A subscriber, A. L. Wing, Glendale, sends a piece of pomelo peel which is thickly covered with a small light colored round scale. He wishes to know the name of the insects and the remedy. This is Pergandi's scale. Parlatoria pergandii. It belongs to the same family as does the red and purple scale, and though not very common in California, would if numerous enough, be a serious pest. I think it has now been proved beyond question that the distillate spray is a specific against all these pests. In case of grape fruit and lemons, we can use a stronger mixture, even 2½ or 3 per cent. of distillate. The less dense foliage makes it possible to reach practically all the leaves without getting so much of the distillate. As I have stated previously 2 or 2½ per cent. had better be used in case of the orange. We must remember that this distillate spray kills by contact and unless we are thorough we will not reach all the scale and hence the results will be unsatisfactory.

* * * *

APHIDS ON CUCUMBERS.

J. Key, Buena Park, sends cucumbers which are seriously affected with plant lice. I do not find any of the work of the Brachonid flies, and so it may be necessary to fight these by artificial means, although there are so many enemies of these aphids that the chances are that they will soon disappear. The sovereign remedy for these insects is kerosene emulsion. In case we could form a thorough mechanical mixture in a small way it would always be wiser to use distillate spray in lieu of kerosene emulsion.

* * * *

FULLER'S ROSE BEETLE.

T. L. Vance, Santa Paula, sends Fuller's rose beetle. He finds them eating beans as well as lemon leaves. I find these are abundant in Santa Barbara and Ventura counties. The grubs there as well as in Los Angeles county are destroying strawberries and raspberries. Mr. Maskew's careful experience prove that bi-sulphide of carbon, one-half ounce to the hole applied every eighteen inches, kills all insects in the soil. This costs 10 cents for 75 running feet. Surely this cost is not prohibitive. The remedy then will be moving the site of the strawberry bed some distance, or the use of bi-sulphide of carbon. These grubs of this beetle are surely a serious menace to our California strawberry growers.

* * * *

SULPHUR FOR THE SILVER MITE.

John N. Glenn, San Diego, refers to the recommendation in the government year-book for 1900, p. 288, to use sulphur for the silver mite. He requests that we give the amount, in case we approve the recommendation. It is wise always, in spraying for mites, to add 20 pounds sulphur to 200 gallons of water. True the distillate spray will kill both mites and eggs. Yet not all will be reached and so not all will be killed. As we know the fumes of the sulphur, caused by the sun's heat, kills the mites, thus it will add to the effectiveness of the distillate spray. The distillate spray rightly used will kill all kinds of scale of susceptible age, and most of the mites—red mites (red spider) and silver mites. The sulphur which will cost but little will complete the work on the scale.

* * * *

ASPARAGUS SCALE.

Mrs. M. I. MacKenzie, Ventura, sends a scale which works on her potted asparagus—A. plumosus. This is the same Lecanium that troubles so much on the sword fern. Drenching severely and thoroughly and repeatedly with strong soap suds is the best remedy. Mrs. MacK. is also troubled with some caterpillar on her hollyhocks. She sent one in a cocoon, but it was dead and dried up, so I can not identify it. Paris green, one ounce to 12 gallons water, well stirred, is the cure for all caterpillar mischief.

* * * *

THE INSTITUTES.

The Fillmore institute was much enjoyed, though the attendance, owing to the lack of advertising, was not as good as usual. A study of the orchards showed that the black scale were hatching very evenly, and were nearly all out. This then is the time to spray or fumigate. Mr. McIntyre spoke of the Scutillista. He is breeding it for distribution and hopes much from its work. Mrs. A. Basley was listened to with great interest at Fernando, Tropico and San Dimas. She is a valuable lecturer on poultry.

The orchards at Fernando show almost no scale. The institutes at Fernando and Tropico were of the very best. Both places urged for another institute if possible next year. The scale are all hatched at Tropico. In the rich dairy region of Bolsa Mrs. Sherman's dairy talks were listened to with great interest.

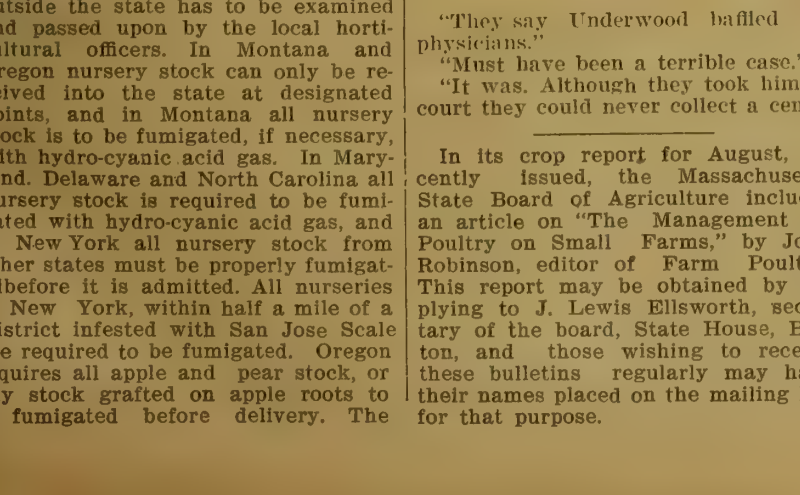
California Horticulturally

JOHN ISAAC, SACRAMENTO

LUTHER BURBANK'S EXHIBIT AT THE STATE FAIR.

One of the most attractive features of the state fair at Sacramento is that made by Luther Burbank of some of his many new productions. Many of these are marked improvements over old varieties, and the large number of different varities exhibited show how extensive, thorough and successfull have been the labors of Mr. Burbank in hybrization. He has not confined himself in his work to any one branch of horticulture, but seems to be equally master of all, and has apparently molded nature to his will to produce whatever he desires.

The term "Wizard of Horticulture" applied to him is a most objectionable one as it belittles his genius. Mr. Burbank is no wizzard. He has accomplished nothing with a magic wand or its hocus pocus formula. A wizard is a humbug; Mr. Burbank is none. But he is a wonderfully scientific man, a close student and indefatigable worker possessed of untiring patience. He has studied nature and mastered her laws, and knows how by applying those laws and waiting patiently for results what he will accomplish. It is this combination of knowledge and patience that makes his genius and not any miraculous or maigcical endowments.



Gold Medal Exhibit of Luther Burbank at State Fair.

* * *

HORTICULTURAL QUARANTINE IN OTHER STATES.

California has been the pioneer in many matters of benefit to the horticultural industries and her movements have been followed by other states and foreign nations.

Horticultural quarantine and orchard inspection orginated in California, and for many years our horticultural laws have been strictly enforced and with such marked benefit to the fruit industry that they have been adopted by a number of the states of the Union and by several foreign countries. The wisdom of, and necessity for laws regulating the importation and distributation of nursery stock has been forced upon many sections by the introduction of the San Jose scale into the orchards of the East, and the enormous damage that has followed such introductions. The horticultural laws of most of the states are largely based upon those of our state, some are almost exactly copies, while some vary considerably. in Oregon, Colorado, Idaho and Montana, all nursery stock imported from outside the state has to be examined and passed upon by the local horticultural officers. In Montana and Oregon nursery stock can only be received into the state at designated points, and in Montana all nursery stock is to be fumigated, if necessary, with hydro-cyanic acid gas. In Maryland. Delaware and North Carolina all nursery stock is required to be fumigated with hydro-cyanic acid gas, and in New York all nursery stock from other states must be properly fumigatedbefore it is admitted. All nurseries in New York, within half a mile of a district infested with San Jose Scale are required to be fumigated. Oregon requires all apple and pear stock, or any stock grafted on apple roots to be fumigated before delivery. The states having no horticulture quarantine laws are: Alaska, Alabama, Arizona, Arkansas, Kansas, Maine, Minnesota, Mississippi, Nebraska, Nevada, New Hampshire, Oklahoma, Rhode Island, South Dakota, Texas Vermont and Wyoming.

Efforts have been made to have a federal horticultural quarantine law passed, and it will probably succeed in time. The necessity for such a law is patent in view of the fact that we are threatened on the south with the Morrellos orange maggot, on the west with the Queensland fruit fly, and on all sides with other pests, and further in view o fthe fact that all our injurious pests are imported species. It is of little use for California to fight against the importation of the orange maggot from Mexico, or other states to endeavor to keep pests from being introduced,while our whole country is open to the enemy and they can be brought into the United States at most of our ports only to find their way at some unguarded point into the territory of the protected states.

ENDING OF THE STATE FAIR.

The state fair ended on Saturday night with the largest attendance that has been present on any occasion Interest in the exhibits increased steadily as the fair progressed and each evening saw a larger attendance than the preceding one. It shows an improved condition of popular taste that the exhibit in the pavilion drew better than the races at the track, and the receipts at the former were more than at the latter. Altogether the affair has been one of the best of the kind ever given in Sacramento and reflects credit on the management who were unsparing in their efforts. One unfortunate event was the practical destruction of the poultry exhibit by a svere north wind, which blew down the awning under which it was being held, destroyed many of the coops, and scattered the poultry. It was not thought worth while to repair the damage and the poultry show was permanently concluded. The awarding of a gold medal to Luther Burbank will be appreciated by the horticulturists of the state as a merit ed recognition of that gentleman's labors in their interests. It is to be hoped that the interest taken in the late fair may be indicative of renewed interest in these exhibitions and that next year it may be even better and that more of the counties of the state may be represented than were shown this year.

"They say Underwood bafiled six physicians."

"Must have been a terrible case."

"It was. Although they took him to court they could never collect a cent."

In its crop report for August, recently issued, the Massachusetts State Board of Agriculture includes an article on "The Management of Poultry on Small Farms," by John Robinson, editor of Farm Poultry. This report may be obtained by applying to J. Lewis Ellsworth, secretary of the board, State House, Boston, and those wishing to receive these bulletins regularly may have their names placed on the mailing list for that purpose.

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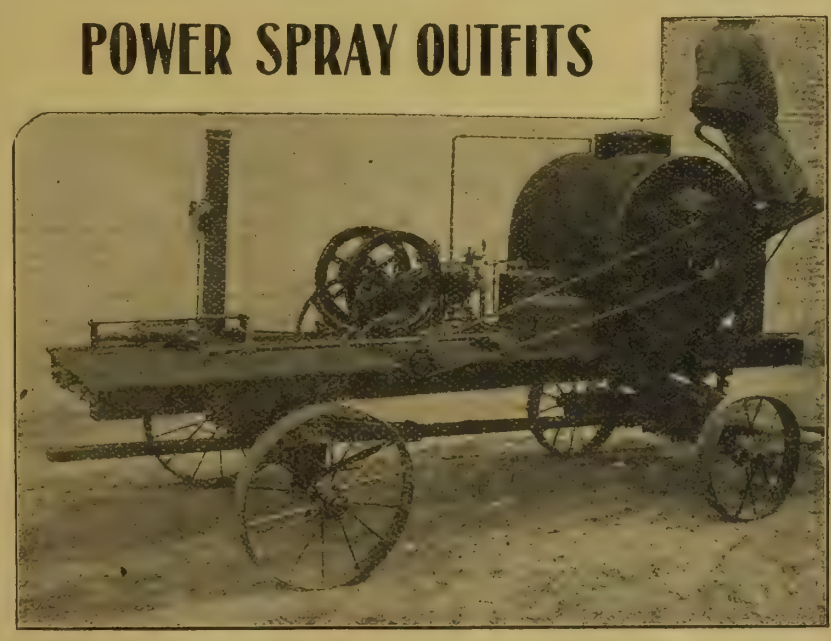

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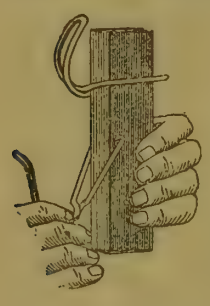

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By J. W. Mills, Ontario, Cal.

APPLES AND PEARS FOR HOME USE.

Editor Cultivator: Will you please give me a list of the names of half a dozen each of pears and apples, that do well in Los Angeles county? My home is in the foothills inthe Cahuenga valley east of Hollywood.—E. H. F.

The soils that are found in the confines of Los Angeles county are so varied that a general list is not possible, but for a warm location, we judge that the following varieties would do as well as any. Cole's pear is a prolific variety and excellent for canning, though not very good to eat out of hand. It is also an excellent sort to bake. Lawson is a large, yellow pear that ripens about the middle of July, is excellent to eat out of hand or to bake. St. Andre ripens the first of September and is a very delicate variety (the fruit) and is a favorite kind with us. The tree has never been affected with the blight, though other varieties surrounding it were killed by blight. Seckle is also a good pear, being slightly affected by the blight, but still bears good crops. It is our sweetest pear. Winter Bartlett is an excellent winter pear. It is very prolific and of good quality. None of the above varieties except the last named, have very much of the granular flesh near the core that is common with most pears. St. Andre is entirely free from it, giving the flesh a smooth and very agreeable taste.

* * * *

We do not know of a better all-round early apple than Red Astrachan, except that it is a shy bearer some seasons. It has a close rival in Early Harvest, it being a regular and heavy bearer and coming in at the same season. It is not so acid as Red Astrachan, which makes it less desirable for cooking purposes. For a sure crop of early apples, Early Harvest cannot be excelled. Skinner's Seedling ripens just as Red Astrachan goes out. This goes under the name of Skinner's Pippin and Santa Clara King. It is one of our best summer apples. The color is a light yellow, quality good and sells well. The tree is a good grower and almost wholly resists blight. Yellow Belleflower and Missouri Pippin are also good varieties, the latter being our best all round red winter apple for warm situations. White Winter Pearmain is our best late apple. All apples require a great deal of water. On our light sandy soil, the late varieties require as much water as orange trees in full bearing.

FARMERS' PICNIC AT POMONA STATION.

The regular fall picnic of the farmers' clubs was held at the Pomona Experiment Station this week and was largely attended.

Hon. John Wasson called the meeting to order at 10 a. m. The exercises were opened with prayer by Dr. Gates of Pomona college. The audience sang America with much spirit, following which, Mrs. Minnie E. Sherman of Fresno read a very excellent paper on the home. Much discussion followed the paper and Mrs. Sherman answered many questions in an entirely satisfactory manner.

The afternoon session opened with the question box, Prof. Cook in charge. Questions of fertilizers, both green and commercial were discussed. It was the opinion of those most experienced that they should be used in conjunction. Mr. P. J. Dreher, President of the San Antonia Fruit Exhange, said that when he plants field peas, he plants with them, about 2 pounds of double superphosphate. Peas next to the north side of the trees come up within a few days; towards the middle of the rows, they are twice as long in sprouting and on the south side, they are still longer in sprouting. This shows the necessity of soaking the seed before planting.

Summer planting of green manure crops was discussed. Prof. Cook cautioned growers against growing summer crops in orange groves without first making a trial on a small scale. Mr. Jas. Boyd of Riverside said that Canada field peas will not do for a summer crop as they are a winter growing plant.

The respective merits of spraying and fumigation were discussed. Spraying with distilate and water was generally recommended by grewers present, on account of its cheapness.

Mr. P. J. Dreher spoke a few minutes on the consolidation of the exchange and shippers.

Prof. Leroy Anderson of the San Luis Obispo Polytechnic school spoke at some length, explaining the aims and needs of the new institution.

John Dean of Moneta has raised from seed forwarded from the Department of Agriculture a novelty in the form of the Turkestan soup bean. It is planted in April and ready for the table in August. No irrigation is required. We hope to hear more of it later.

Professor Shaw believes that raising beets is just as profitable to the farmer as any other crops. Taking the total of 326,000 acres of beets cultivated since 1888, he finds there has been an average production of 9.8 tons per acre. annually, giving a return of $444. or a net profit of $14 per acre.

The professor says that with a proper system of irrigation California alone, could readily supply the entire present and prospective sugar consumption of the United States and still leave ample room for orchards and vineyards and the production of the home supply of breadstuffs.

California is collecting for the World's Fair, a display of fruit that will surprise even those who are familiar with the wonderful products of the state. A peach grower near Farmersville took to the cannery a few days ago sixty-three peaches that weighed 47½ pounds.

Secretary Shaw recently said in a speech that the prosperity of the United States is unprecedented. The annual production capacity of the people is $11,000,000,000. Of this we export $1,500,000,000. We import grains and goods mainly non-competitive, with our own products, to the value of $1,000,000,000. We therefore consume equivalent to 95 per cent of all we produce.

The report of the Industrial Commission gives some interesting and pertinent information regarding the cost of irrigation. This is shown to have been not more than from $2 to $5 per acre in the original pioneer ditches, but the cost has increased with the necessity for storage and for long canals to about $12 an acre. The average annual cost of conveying the water has been about $1.25 per acre, including all costs of repairs and maintenance. The report advocates national control of all sources of water supply upon which two or more states may depend for irrigation.

JERSEY FAIR.

There is still a possibility of a fall exhibit of Southern California Jerseys and a butter test, but the probabilities are not so strong as they were earlier in the season. Almost insurmountable obstacles seem to loom up before the promoters; principal of which is the inability to secure a location for making the exhibit.

The scrap between local speculators who wish to appropriate the property of the Fair Association and the state authorities has resulted in the fair grounds being tied up so the association cannot find the suitable location. Rather than proceed in the face of this obstacle the association may yet decide to hold over till another year, then hold an exhibit in which two years of energy and enthusiasm may be combined.

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FLATULENT COLIC.

Editor Cultivator: What is the quickest relief for a horse attacked with bloat? There have been several cases where horses have died recently from bloat. Answer through the Cultivator. —Subscriber.

If the gas formation in horses is confined to the coecum and intestines, bloat is usually very easily cured by tapping the coecum with trocar and canula and letting off the gas, then giving an anti-ferment to prevent the formation of gas, but if the bloat is confined to the stomach and tapping the coecum does not give relief, then the probang must be passed through the mouth to the stomach.

LEAKING TEATS.

A five-year old Jersey cow, during her last milking period leaked milk badly from all four teats. During the period previous to that the leakage only commenced near time of milking, when the udder was distended, but in this last period the mischief seemed to go on any time of the day, when she was moving around the pasture or even when lying down. She is now dry and will shortly freshen again. Is there any device Dr. Fenimore can recommend to prevent this trouble and loss. The cow is a heavy and very free milker. Please answer through columns of your esteemed paper.

This trouble is due to a relaxed condition of the sphincter muscle at the opening of the teat. An application of cantharides blister on the end of each teat might bring about a stimulation of that muscle.

FISTULOUS TRACT.

Mr. T. W. Clark has a two-year old colt which has a swelling on right foreknee which discharges matter every month or two; the colt cut its knee when very young and Mr. Clark took out a hard kernel a month ago, big as a marble. How should Mr. Clark treat the knee so that it will be cured?

Open the wound and remove all foreign substances and it will heal kindly by keeping it protected and syringing it out twice daily with a good antiseptic.

LUMP UNDER JAW.

I have a cow that has a swelling under her jaw; sometimes it goes away pretty much, and then comes on again. There is a lump about the size of a turkey egg; it is loose from the jaw, and now she runs a little at the nose. I have described in the picture as near as possible how it is. She eats all right. will you please tell me what I can do for it?—Subscriber.

Lumps under and between the jaw bones, such as you describe, are usually caused by some foreign substance producing an inflammation which may or may not superate. Lancing the enlargements usually results in its disappearance.

POSSIBLE ANTHRAX.

Editor Cultivator: I had seven strong healthy calves from two to three months old, fed on skim milk from separator; run on alfalfa. First noticed them drooping around and passing bloody urine. They continued to grow weak and would die in about 24 hours from commencement of trouble. Some calves had good appetite, eating within one hour of death. Would generally lie down about 12 hours after attack; would not get up again.—C. B., Kingsbury, Cal.

There is no cure.

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Land and Water

BY A. J. M'CLATCHIE, TUCSON, ARIZ.

EUCALYPTUS FOR HOT, DRY REGIONS.

About their names:—Before beginning a discussion of the subject proper it may be well to come to an understanding with the readers of the Cultivator concerning the names of these trees. The general common name adopted in Australia some years ago is "eucalypts," an Anglicised form of eucalyptus, the Latin name of the genus to which all belong. In speaking of these trees in general, then, we may call them by the Anglicised name, or may speak of them as eucalypti, the plural form of the Latin name of the genus, the former being simpler and for other reasons preferable. In speaking of a particular eucalypt, it is necessary in most cases to use the Latin name of the species. These trees have not been cultivated long enough yet for a very large percentage of them to have become known by common names. One species, Eucalyptus globulus, has a well established common name, "Blue Gum," in this country, although several different trees are called by the same name in Australia. In speaking of most of them, the only safe way is to use the botanical names. For example several quite different species are called "Red Gum," rendering this name too indefinite for use.

Diversity of kinds:—The genus Eucalyptus contains approximately 150 distinct species—not horticultural varieties, but botanical species—about half of which grow to a sufficient size to be of use commercially. Among the 75, or so, species that grow to the dimensions of good sized trees, are species suited to each of quite a variety of situations. Some grow naturally in swampy or very moist tropical locations, some grow best on cool mountain sides, a large number prefer situations that are moderately moist and moderately warm, while others endure great heat and a very dry atmosphere. It is of some of the last that mention will be made first, being in many respects the most important, because they grow where trees are scarcest and most needed. In most regions that are dry and hot in summer there is considerable frost during winter; hence species suited to such regions must endure both high and low temperature, as well as extreme aridity of the atmosphere.

Eucalyptus Rudis.—The most rapid growing species enduring the above trying conditions is, so far as known to the writer, Eucalyptus rudis, a comparatively obscure tree in Australia. It has proven very satisfactory at Fresno, and is the species now being generally planted at Phoenix. It is useful for shade, for a windbreak, for fuel, for posts, and for culver timbers, but is not so tough and strong nor so durable as some species. It has a more spreading habit than the Blue Gum and the bark is furrowed and persistent instead of smooth and deciduous. The leaves of the young trees are broad, but not opposite on the stem as in the case of the Blue Gum, being lang and slender on the adult trees, as on most Eucalypts. It is quite easily propagated, and bears transportation and transplanting well. The only present source of supply of the young seedlings in large quantities is the Fancher Creek Nursery, Fresno.

(To be continued.)

* * *

STRAWBERRY PLANTS.

Mrs. J. H. writes from Coldwater, Arizona, asking if Arizona Everbearing strawberry plants can be procured here for September setting. Plants of this variety formerly grown about Phoenix so extensively are now very scarce in Arizona, the home of this popular strawberry. This is due to the effect of the hot, dry weather and to the character of the irrigating water during the past few years, and possibly also to the custom of setting home-grown plants almost exclusively. So far as known, there will be no Arizona Everbearing plants for sale during the coming season, in the vicinity of Phoenix. There may be a limited supply at Tucson. Plants can be procured of California growers. However, plants cannot be successfully grown in our hot interior valleys from a September setting. November is as early as they should be set in such localities, and most years Arizona Everbearing plants do best if set during February and March.

* * *

EUCALPT SEED.

Mrs. M. B. C., writes from San Diego asking where seed of E. ficifolia, E. Crebra, and E. rudis can be obtained. So far as the writer knows, the only firm handling an extended variety of Eucalypt seed is the Germain Seed Co., Los Angeles. Seed of the first species named can surely be easily obtained, and at Fresno there are many trees of the other two, seed from which can probably be obtained through Geo. C. Roeding. The safest way to procure Eucalypt seed is to gather it from trees of established identity and characteristics. But as trees of the desired species are not always accessible, it is often necessary to order of a seedsman.

* * *

CONSERVATION OF IRRIGATING WATER.

A. L. C. writes that he is about to establish an irrigating plant, and wishes information as to the best methods of avoiding losses, his source of water supply not being stated. The methods to be employed depend upon the distance from the source of the water to the land to be irrigated, the value of the crops that are to be raised, the nature of the soil, and several other factors. In the vicinity of Phoenix and about Imperial where water is conducted long distances from a river, principally for the irrigation of grains and forage crops, open canals excavated through the soil are used. Upon account of the camparatively small value of the crop grown, the water must be delivered at the land at a minimum cost to the grower. In these so-called desert regions the soil is comparatively heavy and does not permit water to percolate rapidly. Moreover, the sides of the canals soon become coated with a nearly impervious layer of silt brought down from the watershed.

Where the crop to be grown gives high returns per acre, and the water is consequently very valuable, it is naturaly conveyed in cemented ditches or in flumes. The latter should be substantially made and securely placed at the outset ;and loss by evaporation from any form of conduit will be prevented by a cover. But more anon.

CROP CONDITIONS.

Nearly normal temperature and clear weather prevailed during the week in all parts of the state.

Grape picking is progressing rapidly in all sections, and raisin curing and wine making are well under way. The grape crop is heavy in most places, and a large yield of raisins is probable. Carload shipments of grapes to the east continue. The prune crop is reported somewhat lighter than usual, but of superior quality; picking and drying are in progress. Apples are abundant and of good quality. Almond harvest is nearly completed. Walnuts are ripening slowly. The deciduous fruit crop is being rapidly dried and canned. Citrus continue in good condition.

Bean harvest has commenced in the Santa Maria and Ventura districts; the crop is reported lighter than usual. Lima beans are ripe at Anaheim, and bean canning is progressing in Lake county. Hop picking is nearly completed and baling is in progress. The hay crop is mostly under cover and grain thrashing is completed except in a few places. Sugar beet harvest continues and the factories are in operation; beets on irrigated lands have yielded heavily.

WANTED—A JOB AS FOREMAN OF CITRUS orchards. I understand irrigation, fumigation, spraying, etc. Am a married man. Address P. KITCHEN, Tropico.

BEE SUPPLIES—G. G. Wickson & Co, 123 N. Main Street, Los Angeles, Cal.

"ITS PENNY WISE"

Policy to set out a good tree, costing good money, and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe avenue, Los Angeles.

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40 acres, (18 in alfalfa) well improved, three flowing wells with good pumping plant, almost new, with 500 feet of 6-inch irrigating pipe. Windmill with 2,500 gal. tank. Large barn, four-room house, all fenced and cross-fenced. Located one mile west of Hynes, 12 miles from Los Angeles. Price, $5,000.

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The soil is rich sandy loam, laying level and well adapted for irrigation. It produces the finest quality of alfalfa, berries and vegetables. The climate is ideal. There is a good class of people, churches, schools, etc.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room honse, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house snd barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

GRAY & NELSON
Gardena, Cal.

C. H. SESSIONS, Associate Editor

PREMIUM WINNERS AT THE STATE FAIR.

We give below the winners of premiums in Cattle, Swine, Sheep and Goats at the state fair.

In the cattle classes the judges were Prof. Carlyle, expert in animal industry of University of Wisconsin, and Prof. E. W. Majors, expert in animal industry, California State University.

CATTLE.

Best Bull, 3 years and over.
1. Joseph Marzen, Lovelocks, Nev., Blythe Victor.
2. The California Pastoral & Agricultural Co., Ltd., Merced, Davenport Duke.

Best Bull 2 years old.
1. John Sparks, Reno, Nev., Nonpareil, Alamo.
2. Est. Wm. H. Howard, San Francisco, Royal Fashion.
3. Joseph Marzen, Lovelocks, Nev., Matshall's Combination.

Best Bull 18 and under 24 months.
1. Est. Wm. H. Howard, S. F., Chief of Valley View IV.
2. Est. Wm. H. Howard, S. F., King Spicy 38th.
3. J. H. Glide & Son, Sac., Chief of Valley View V.

Best Bull, 12 and under 18 months.
1. Joseph Marzen, Emperor.
2. C. P. & A. Co., Ltd., McCollough.
3. P. H. Murphy & Sons, Perkins, Beaumont VII.

Best Bull under 12 months.
1. Est. Wm. H. Howard, King Spicy 50th.
2. Est. Wm. H. Howord, King Spicy 53rd.
3. Joseph Marzen, Humbo[illegible]t Victor 41st.

Best Cow 3 years old and over.
1. Joseph Marzen, Amelia [illegible] vid XIX.
2. Est. Wm. H. Howard [illegible] a X.
3. Est. Wm. H. Howard, My [illegible] XIX.

Best Cow 2 years old.
1. Joseph Marzen, Humboldt [illegible]
2. Est. Wm. H. Howard, Dand[illegible]XVIII.
3. Joseph Marzen, Meadowmaid [illegible]s.

Best Heifer 18 and under 24 m[illegible]s.
1. C. P. & A. Co. Ltd., Beauty.
2. Est. Wm. H. Howard, Spicy Hopeful II.
3. C. P. & A. Co. Ltd., Wyndhault II.

Best Heifer 12 and under 18 months.
1. Est. Wm. H. Howard, Spicy Hopeful III.
2. P. H. Murphy & Sons, Amethyst.
3. P. H. Murphy & Sons, Bracelet XVI.

Best Heifer under 12 months.
1. Est. Wm. H. Howard, Miss Harold XXXIII.
2. Est. Wm. H. Howard, Spicy's Ramona II.
3. Est. Wm. H. Howard, Hopeful LXXVI.

Exhibitor's Old Herd.
1. Joseph Marzen, Blythe Victor and 4.
2. Est. Wm. H. Howard, Royal Fashion and 4.
3. C. P. & A. Co. Ltd., Davenport Duke and 4.

Breeders' Young Herd.
1. Est. Wm. H. Howard, Chief Valley View IV and 4.
2. Est. Wm. H. Howard, King Spicy XXX and 4.
3. C. P. & A. Co. Ltd., Baron II and 4.

Get of Sire.
1. Joseph Marzen.
2. Est. of Wm. H. Howard.
3. C. P. & A. Co. Ltd.

Produce of Dam.
1. Est. Wm. H. Howard.
2. Est. Wm. H. Howard.
3. Joseph Marzen.

CHAMPIONS.

Bull over 3 years.
Joseph Marzen, Blythe Victor

Bull 2 years.
John Sparks, Non Pareil Alamo.

Bull 1 year old.
Est. Wm. H. Howard, Chief of Valley View IV.

Cows 3 years old and over.
Joseph Marzen, Amelia B. David XIX.

Cows 2 years old.
Joseph Marzen, Humboldt Rose VII.

Cow under 2 years.
C. P. & A. Co. Ltd., Beauty.

CLASS I, SHORTHORNS, (STATE CLASS.)

Bull 3 years old and over.
1. J. H. Glide & Son, Sacramento, Nevada Boy XXXIX.
2. C. P. & A. Co. Ltd., Davenport Duke.

Bull 2 years old.
1. Est. Wm. H. Howard, Royal Fashion.
2. C. P. & A. Co. Ltd., Kenmore.
3. C. P. & A. Co. Ltd., Spectator.

Bulls, 18 and under 24 months.
1. Est. Wm. H. Howard, Chief of Valley View IV.
2. Est. Wm. H. Howard, King Spicy XXXVIII.
3. J. H. Glide & Son, Chief of Valley View V.

Bulls 12 and under 18 months.
1. C. P. & A. Co. Ltd., Sexton's Lad.
2. C. P. & A. Co. Ltd., McCollough.
3. C. P. & A. Co. Ltd., Young Robert II.

Bulls under 12 months.
1. Est. Wm. H. Howard, King Spicy L.
2. Est. Wm. H. Howard, King Spicy LIII.
3. P. H. Murphy & Sons, General Lee IV.

Cows 3 years old and over.
1. Est. Wm. H. Howard, Ramona X.
2. Est. Wm. H. Howard, Mystery XXIX.
3. C. P. & A. Co., Coptic.

Cows 2 years old.
1. Est. Wm. H. Howard, Dandelion XXVIII.
2. C. P. & A. Co. Ltd., Little Heroine.
3. Est. Wm. H. Howard, Hopeful LXIV.

Cows 18 and under 24 months.
1. C. P. & A. Co. Ltd., Beauty.
2. Est. Wm. H. Howard, Spicy's Hopeful II.
3. C. P. & A. Co. Ldt., Windhault II.

Cows 12 and under 18 months.
1. Est. Wm. H. Howard, Spicy's Hopeful III.
2. P. H. Murphy & Sons, Amethyst.
3. P. H. Murphy & Sons Bracelet XVI.

Heifer Calf under 12 months.
1. Estate Wm. H. Howard, Miss Harold, XXXIII.
2. Est. Wm. H. Howard, Spicy's Ramona II.
3. Est. Wm. H. Howard, Hopeful, LXXVI.

Exhibitor's Herd.
1. Est. Wm. H. Howard, Royal Fashion and 4.
2. C. P. & A. Co. Ltd., Davenport Duke and 4.

Breeders' Young Herd.
1. Est. Wm. H. Howard, Chief Valley View LV and 4.
2. Est. Wm. H. Howard, King Spicy XXX and 4.
3. C. P. & A. Co. Ltd., Baron II and 4.

Get of Sire.
1. Est. Wm. H. Howard, King Spicy XXX and 4.
2. C. P. & A. Co. Ltd., Davenport Duke and 4.
3. P. H. Murphy & Sons, Baron Gwynne and 4.

Produce of Dam.
1. Est. Wm. H. Howard, Mystery XXVIII and 2.
2. Est Wm. H. Howard, Hopeful XLVIII and 2.
3. P. H. Murphy & Sons, Agatha and 2.

CLASS III.—HEREFORDS.

Bull 3 and over.
John Sparks, Reno, Nev., Perfection II.

Bull 2 years old.
John Sparks, Beau Donald.

Bull 18 and under 24 months.
1. John Sparks, Gem Alamo.
2. Joseph Marzen, Lovelocks, Nev., Humboldt Duke XXIX.

Bull Calf 12 and under 18 months.
1. John Sparks, Gallant Alamo.
2. Joseph Marzen, Humboldt Duke XXXII.

Bull Calf under 12 months.
John Sparks, Lee Alamo.

Cow 3 years and over.
John Sparks, Phoebe Alamo.

Cow 2 years old.
John Sparks, Lady Hesiod XXXIX.

Heifer 18 and under 24 months.
John Sparks, Diste Alamo.

Heifer 12 and under 18 months.
John Sparks, Dawn Alamo.

Heifer Calf under 12 months.
John Sparks, Miss Perfection.

Exhibitors' Herd.
John Sparks, Perfection II and 4.

Breeder's Young Herd.
John Sparks, Gem Alamo and others.

Get of Sire.
John Sparks, Perfection II and 4.

Produce of Dam.
John Sparks, Phoebe and Louise Alamo.

Champion Bull 3 years and over.
John Sparks, Perfection II.

Champion Bull 2 years old.
John Sparks, Gem Alamo.

Champion Bull 2 years old.
John Sparks, Beau Donald XLI.

Champion Cow 3 years old and over.
John Sparks, Phoebe Alamo.

Champion Cow 2 years old.
John Sparks, Lady Hesiod XXXIX.

Champion Heifer under 2 years.
John Sparks, Miss Perfection.

CLASS IV. HOLSTEIN-FRIESIANS.

Bull, 3 years old and over.
1. J. W. Rea, San Jose, Brigadier of La Fiesta.
2. Mrs. M. E. Gubbay, San Jose, Michthildus of La Siesta.

Bull, 2 years old.
1. Gubbay's Angelus.
2. Rea's Cossack of La Siesta.

Bull, 1 year old.
1. Rea's Prince Mercedes Julip Pietertejc.
2. Gubbay's Loyal Knight of La Siesta.

Bull Calf, 6 mos. and under 1 year.
1. Rea's (un-named).
2. Gubbay's Earl De Kol of La Siesta.

Bull Calf under 6 months.
1. Gubbay's un-named.

BUTTER EXHIBIT AND CONTEST.

A magnificient exhibit of butter was made, the first premium butter coming so close up to perfection that it was considered a most remarkable showing. The following are the fifteen prize winners:

	Name of Butter Maker.	Name of Creamery	Address.	Score.
1.	John Carlson	Penn Valley	Rough and Ready	99.125
2.	J. H. Kiser	Hollister	Hollister	98.625
3.	R. Pozzi	Marysville	Marysville	98.45
4.	Frank Hyde	Valley	Visalia	97.25
5.	Geo. G. Knox	Crystal	Sacramento	97.
6.	J. H. Severin	Modesto	Modesto	96.125
7.	E. H. Hagerman	San Joaquin	Fresno	96.
8.	O. L. Ridgway	Sunflowers	Porterville	95.875
9.	M. L. Beck	Sheppard	Point Arena	95.75
10.	Julius Madsen	Capital	Ferndale	95.625
11.	R. Martin	Alton	Alton	95.25
12.	J. D. Bailey	Pioneer	Etna	95.
13.	Carl J. Vosmer	Forest	Ferndale	94.5
14.	R. H. Barlow	Wilson	Etna	94.25
15.	W. A. Schwandt	Bridgeport	Miller	94.125

EXPORT BUTTER—SILVER MEDAL AWARDED.

	E. H. Hagerman	San Joaquin Ice Co.	Fresno	98.125

BRONZE MEDAL AWARDED.

	Hills Bros.		San Francisco	87.

CHEESE.

1.		R. H. Barton	Etna, Cal.	83.5
2.		J. A. Howe	Compton, Cal.	82.5
3.		M. G. Salmund	Sargents, Cal.	75

Judges: W. H. Roussel, San Francisco; Prof. E. W. Majors, Berkeley.

REGISTERED SHORTHORNS--MILK STRAIN

Orrick, No. 183,987
Quantity and Quality—Lady Lee, .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 85.3: Idlewood, 6.2. Choice young stock for sale.
JOHN LYNCH, Box 321 Petaluma Cal.

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FOR SALE

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MOLASSES, 75 cents per barrel. Consists almost entirely of carbohydrates. (sugars) cheapest and best food for fattening stock of all kinds. Send for testimonials regarding feeding value of molasses for **working horses, fattening cattle** and **growing pigs** and **calves.**
The Louisiana Planter says: "It has been proved conclusively a pound of molasses has a feeding value about equal to that of a pound of corn."
Los Alamitos Sugar Co., Los Alamitos, Cal.

SLEEPY HOLLOW HERD OF HOLSTEIN CATTLE

We are offering for sale at very low prices a magnificent lot of bull calves. In our herd may be found all the leading families of this great breed of Dairy Cattle. There is no grade equal to the get of a fine Holstein sire on common cows. Visit the ranch, or write

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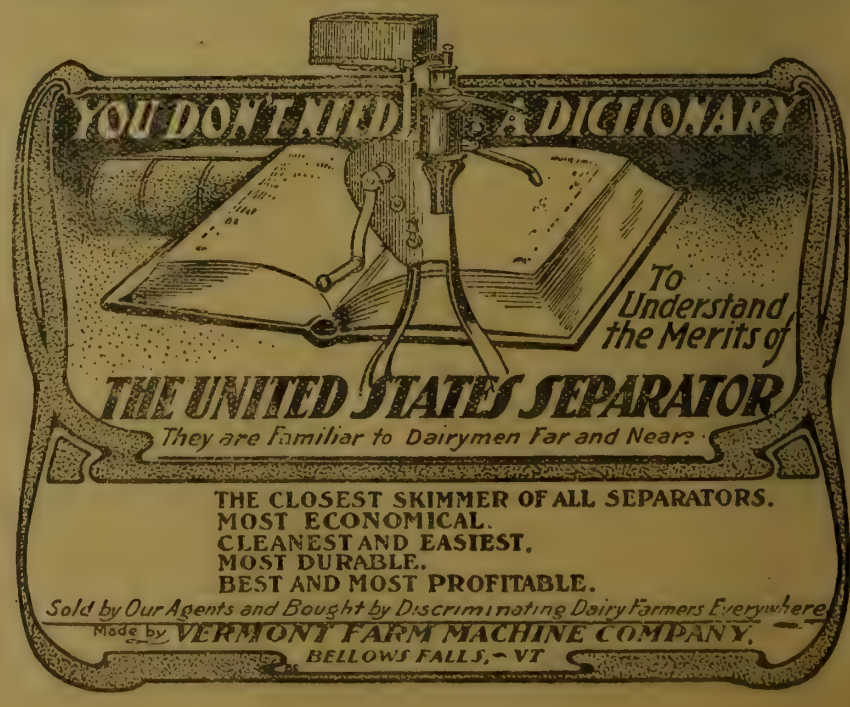

2. Rea's un-named.
Cow, 3 years and over.
1. Gubbay's Gaiety of La Siesta.
2. Rea's Cream Pot.
Cow, 2 years old.
1. Rea's Cleopatra Vendome.
2. Gubbay's High Yulah VII.
Heifer, 1 year old.
1. Rea's Midnight de Kol.
2. Gubbay's Lill de Kol.
Heifer Calf, 6 months and under 1 year.
1. Rea's, not named.
2. Gubbay's, not named.
Heifer Calf under 6 months.
1. Gubbay's, not named.
2. Rea's, not named.
Exhibitor's Herd.
1. Gubbay's Michthildus of L. S. and 4.
2. Rea's Brigadier.
Breeder's Young Herd.
1. Gubbay's Earl de Kol of L. S. and 4.
2. Rea's Prince Mercedes Pietertje and 4.
Get of Sire.
1. Mrs. M. E. Gubbay.
2. J. W. Rea.
Produce of Dam.
1. J. W. Rea.
2. Mrs. M. E. Gubbay.
Champion Bull over 3 years.
James. W. Rea's Brigadier of La Siesta.
Champion Bull 2 years old.
Mrs. M. E. Cubbay's The Angelus.
Champion Bull under 2 years.
James W. Rea's Prince Mercedes Julip Pietertje.
Champion Cow, 3 years old and over.
Mrs. M. E. Gubbay's Gaiety of La Siesta.
Champion Cow, 2 years old.
James W. Rea's Cleopatra Vendome.
Champion Cow under 2 years.
James W. Rea's Midnight de Kol.

CLASS VII. JERSEYS.

Bull, 3 years old and over.
1. James Horsburgh, S. F. Prince of Santa Ysabel.
2. Alex. Chisholm, Jacinto, Lord Marigold.
Bull, 1 year old.

WANTED

A young man who is a good milker and experienced in caring for cows, to take charge of our small herd of Jerseys. A good opportunity for a man who desires to add scientific knowledge of feeding and management to practical experience. Good wages to the right man. Address, with references,

C. W. Leffingwell, Jr., Whittier, Cal.

Removal Notice

OF

The Cutter Analytic Laboratory

On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from **Fresno to Berkeley.**
Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is

The Cutter Analytic Laboratory
Rialto Building, San Francisco

OUR SPECIALTY IS

CUTTER'S BLACK LEG VACCINE

If your druggist does not stock our products, order direct form us. We pay all transportation charges

CREAMERY SUPPLIES

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines & Boilers — Milk Coolers
Apiary Supplies
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

G. G. WICKSON & CO.
121 N. Main St., Los Angeles, Cal.
SAN FRANCISCO — PORTLAND

1. Alex Chisholm, Jacinto, Cocinino.
2. Thomas Waite, Perkins, Clayboy.
Bull Calf, over 6 and under 12 months.
Alex Chisholm, Jacinto, Sunny Jim Marigold.
Bull Calf, under 6 months.
Alex Chisholm, Jacinto, Geronimo Marigold.
Cow, 3 years old and over.
1. Alex Chisholm, Jacinto, Dot's Violet W.
2. Thomas Waite, Perkins, Race W.
3. Thomas Waite, Perkins, Little Lucy.
Cow, 2 years old.
Thomas Waite, Perkins, Beauty W.
Cow, 1 year old.
Alex Chisholm, Jacinto, Violet Dot Pedro.
Alex Chisholm, Jacinto, Bertha's Queen Marigold.
3. Alex Chisholm, Jacinto, Beauty Marigold.
Calf 6 and under 12 months.
Alex Chisholm, Jacinto, Lulu Marigold.
Calf under 6 months.
1. Alex Chisholm, Jacinto, Chico Marigold.
2. Thomas Waite, Perkins, Lillian W.
3. Thomas Waite, Perkins, un-named.
Breeder's Herd.
Alex Chisholm, Jacinto, Sunny Jim Marigold and 4.
Get of Sire.
Alex. Chisholm, Jacinto.
Produce of Dam.
1. Alex. Chisholm, Jacinto.
2. Thos. Waite, Perkins.
3. Thos. Waite, Perkins.
Champion Bull, 3 years old and over.
James Horsburgh, San Fran., Santa Ysabel.
Champion Bull under 2 years.
Alex. Chisholm, Sunny Jim Marigold.
Champion Cow, 3 years old.
Alex Chisholm, Dot's Violet W.
Champion Cow under 2 years old.
Alex Chisholm, Violet's Dot Pedro.

CLASS VIII. AYRSHIRES.

Best Cow 3 years old and over.
George Bement, Melrose, Libby B.
Champion Cow, 3 years old and over.
George Bement, B Libby B.

CLASS XI. GRAND SWEEPSTAKES. BEEF BREEDS.

Aged Herd.
1. John Sparks, Perfection III and 4.
2. Joseph Marzen, Blythe Victor and 4.
Young Herd.
1. John Sparks, Gem Alamo and 4.
2. Estate of Wm. H. Howard, King Spicy XXX and 4.

CLASS XII. GRAND SWEEPSTAKES. DAIRY BREEDS.

Aged Herd.
1. Mrs. M. E. Gubbay, Michthildus of La Siesta and 4.
2. James W. Rea, Brigadier of Vendome and 4.
Young Herd.
1. Alex Chisholm, Sunny Jim, Marigold and 4.
2. James W. Rea, Prince Mercedes Julip Pietertje and 4.

SHEEP.

CLASS II. FRENCH MERINO.

Ram, 2 and over, J. H. Glide & Son, Sacto, Ram No. 193.
Ram, 1 year, J. H. Glide & Son, Glide's Choice.
Ewe, 2 and over, J. H. Glide & Son, No name.

CLASS III. SOUTHDOWNS.

Ram, 2 years and over, Thos. Waite, unnamed.
Ram, one year old.
1. Geo. Bement, Melrose, Ladd No. 138.
2. C. C. Perkins, California Boy.
Ram under one year.
1. Thos. Waite, Vet. Tryon.
2. George Bement, No. 24.
3. Thos. Waite, Master Joe.
Ewe, 2 years old.
1. George Bement, Ewe No. 18.
2. Thos. Waite, Nina I.
3. George Bement, Ewe No. 26.
Ewe, 1 year old.
1. Geo. Bement, Ewe No. 19.
2. Thomas Waite, Millie II.
3. Thomas Waite, Millie I.
Ewe under 1 year.
1. Thomas Waite, Rosa 1.
2. George Bement, Ewe No. 57.
Flock.
1. Thomas Waite, Oregon Boy and 4 ewes.
2. George Bement, Ladd No. 138 and 4 ewes.
Pen of 4 Lambs.
Thomas Waite, one pen.
Ram of any age.
Thomas Waite, Oregon Boy.
Ewe of any age.
George Bement, Ewe No. 18.

CLASS IV. SHROPSHIRE.

Ram, 2 years old and over.
J. H. Glide & Son, Un-named.

CLASS IV. SHROPSHIRES.

Ram, 2 years old and over.
J. H. Glide & Son, un-named.

CLASS V. HAMPSHIRE DOWNS.

Ram, 2 years old and over.
J. H. Glide & Son, Spartan.
Ram, 1 year old.
J. H. Glide & Son.

GOATS.

CLASS VI. PERSIAN.

Ram, 2 years old, C. P. Bailey, San Jose.
Ram, 1 year old, C. P. Bailey, San Jose.
Ram, under 1 year, C. P. Bailey, San Jose.
Ewe, 2 years old, C. P. Bailey, San Jose.
Ewe, 1 year old, C. P. Bailey, San Jose.
Ewe, under 1 year, C. P. Bailey, San Jose.
Ewe, under 1 year, C. P. Bailey, San Jose.
Flock, C. P. Bailey, San Jose.
Pen of 4 lambs, C. P. Bailey, San Jose.
Ram of any age, C. P. Bailey, San Jose.
Ewe of any age, C. P. Bailey, San Jose.

CLASS XIV. ANGORA GOATS.

Buck, 2 years and over.
1. C. P. Bailey, San Jose.
2. C. P. Bailey, San Jose.
Buck 1 year old.
1. C. P. Bailey, San Jose.
2. C. P. Bailey, San Jose.
Buck under 1 year.
1. C. P. Bailey, San Jose.
2. C. P. Bailey, San Jose.
Doe, 2 years and over.
1. C. P. Bailey, San Jose.
Doe 1 year old.
1. C. P. Bailey, San Jose.
2. C. P. Bailey, San Jose.
Doe under 1 year.
1. C. P. Bailey, San Jose.
2. C. P. Bailey, San Jose.

SWINE.

CLASS I. BERKSHIRE.

Boar, 2 years and over.

BEE SUPPLIES—G. G. Wickson & CO. 123 N. Main Street, Los Angeles, Cal.

1. C. W. Reed, S. F., Rio Bonita Prince.
2. Thomas Waite, Baron Victor.
3. C. C. Perkins, Un-named.
Boar, 1 year old.
1. C. W. Reed, White Lug.
2. C. C. Perkins, Fashion Prince.
3. C. C. Perkins, Fashion Imperial.
Boar, under 1 year and over 5 months.
1. W. C. Murphy & Bro., Perkins, Prince of Perkins.
2. C. C. Perkins, Fashion Duke.
3. C. C. Perkins, Emerald Fashion.
Boars under 6 months.
1. C. C. Perkins, Un-named.
2. C. C. Perkins, Un-named.
3. C. C. Perkins, Un-named.
Sows, 2 years and over.
1. C. C. Perkins, Sacramento Queen.
2. Thomas Waite, Lady W.
3. C. C. Perkins, Moline.
Sows 1 year old.
1. C. C. Perkins, Belle.
2. C. W. Reed, Peg Woffington.
3. C. C. Perkins, Fashion Princess.
Sows, six months and under one year.
1. C. C. Perkins, Fashion Duchess.
2. C. C. Perkins, Fashion Heiress.
3. W. C. Murphy & Bro., Bella Perkins.
Sow under 6 months.
C. C. Perkins, Un-named.
Produce of Dam.
1. W. C. Murphy & Bro., Perkins Farm and progeny.
2. C. W. Reed, Sans Souci and progeny.
3. Thomas Waite, Lady Gentry and progeny.
Get of Sire.
1. C. W. Reed, Rio Bonita Prince's 4 pigs.
2. C. C. Perkins, Hieliep Oxford's 4 pigs.
Boar and his get under 1 year.
1. C. C. Perkins, Hielere Oxford and 4 pigs.
2. Thomas Waite, Baron Victor and 4 pigs.
Champion Boar of any age.
1. C. W. Reed, Rio Bonita Prince.
2. C. W. Reed, White Lug.
Champion Sow, any age.
1. C. W. Reed, Bracegirdle.
2. W. C. Murphy & Bro., Bella Perkins.

CLASS II. ESSEX.

Boar, 2 years old and over.
Geo. Bement, Ohio Major.
Boar, 1 year old and over.
Geo. Bement, Eureka Chief.
Boar under 6 months.
Geo. Bement, Jeffries.
Sow, 2 years old and over.
Geo. Bement, Black Patti.
Sow, 1 year old.
Geo. Bement, Tremer's Jim.
Sow, 6 months and under 1 year.
Geo. Bement, Black Diamond.
Sow, under 6 months.
Geo. Bement, Hazel.
Boar and 4 of his get under 1 year.
Geo. Bement, Ohio Major and 4 pigs.
Champion Boar any age.
Geo. Bement, Ohio Major.
Champion Sow, any age.
Geo. Bement, Black Patti.

CLASS III. POLAND CHINA.

Boar, 2 years old and over.
1. W. R. McCaslin, Consumnes, Chief Guy.
2. Clark & Bishop, Kingsburg, O. K. I Know.
Boar 1 year old.
1. Clark & Bishop, Blackhawk.
2. Clark & Bishop, Eureka.
3. P. H. Murphy & Sons, Sunshine I Know.
Boar, 6 months and under 1 year.
1. Clark & Bishop, O. K. Boy.
2. P. H. Murphy & Sons, Chief Wilks.
3. Clark & Bishop, Ringtail.
Boar under 6 months.
1. W. R. McCaslin, Un-named.
2. Clark & Bishop, Black O. K.
3. P. H. Murphy & Sons, Un-named.
Sow, 2 years and over.
1. Clark & Bishop, Blackhawk Tip.
2. W. R. McCaslin, Midnight.
3. W. R. McCaslin, Black Maud.
Sow, 1 year old.
1. Clark & Bishop, Blackhawk Prize.
2. Clark & Bishop, Black I Am.
3. W. R. McCaslin, Fredo Ra.
Sow, 6 months and under 1 year.
1. W. R. McCaslin, Darkness.
2. Clark & Bishop, O. K. Lady.
3. Clark & Bishop, Beauty.
Sow under 6 months.
1. W. R. McCaslin, Un-named.
2. Clark & Bishop, Un-named.
3. P. H. Murphy & Sons, Lady I Know.
Produce of Sow.
P. H. Murphy & Sons, Lady Ideal and pigs.
Get of Sire.
W. R. McCaslin, Chief Guy and 4 pigs.
Boar and 4 of his get under 1 year.
1. Clark & Bishop, 4 and 4 pigs.
2. P. H. Murphy, Sunshine I Know and 4.
3. Clark & Bishop, O. K. I Know and 4 pigs.
Champion Boar any age.
1. W. R. McCaslin, Chief Guy.
2. Clark & Bishop, Blackhawk.
Champion Sow, any age.
1. Clark & Bishop, Blakhawk Prize.
2. W. R. McCaslin, Midnight.

CLASS VII. OHIO IMPROVED CHESTER.

Boar, 1 year old.
Alex Gordon, Hueneme, Onward.
Boar, 6 months and under 1 year.
Alex Gordon, Duke.
Boar under 6 months.
Alex Gordon, Un-named.
Sow, 2 years old and over.
Alex Gordon, Jane.
Sow 1 year old.
Alex Gordon, Bess.
Sow, 6 months and under 1 year.
Alex Gordon, un-named.
Sow under 6 months.
Alex Gordon, un-named.
Best Boar and 4 pigs under 1 year.
Alex Gordon,
Champion Boar, any age.
Alex Gordon, Onward.
Champion Sow, any age.
Alex Gordon, Jane.

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.

C. W. LEFFINGWELL, JR., Sec'y., Whittier, Calif.

Sultane's Golden Fern, 65304

[IMPORTED]
SERVICE BULL — FEE REASONABLE
See breeding in issue September 11th

For Sale, King's Crown Prince, 3 months' old, very choice, nearly pure bred St. Lambert. Price now $35, as I cannot keep him.
A. B. WHITE, - 2547 W. 12th St., Los Angeles

Ramona Herd

REGISTERED JERSEY CATTLE
Geo. W. Thomas Riverside, Cal.

Three Young Bulls

FOR SALE
W. Jay Cole, Anaheim, Cal.

MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oouan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

G. I. Lytle

HIGH GRADE, STANDARD BRED JERSEYS
2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad

AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
GEO. Y. COUTTS — Orange, Cal.

LEMONITA HERD

Leffingwell Rancho, Whittier, Cal.

Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
Terms reasonable. Liberal reductions to those coming from a distance.
No charge for service on cows having authenticated fat or butter records.

Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

E. E. MOORE, Compton, Cal.

Venadera Herd

OF REGISTERED JERSEYS.

Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices

GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT — Station B, Los Angeles

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.

JERSEY BULLS OF ALL AGES

FOR SALE

Melia Ann and Golden Lad blood in lead. Write or come and see.

LEWIS BRADBURY - DUARTE, CALIF.

Nothing Succeeds Like Success

You Will Have Success if You Feed Your Hens Coulson's Egg and Feather Food

Coulson's Egg Food has been fed with success for over a year by many of the oldest and largest owners of poultry ranches in the State of California.

Geo. Gaston, who has about 2500 laying hens, feeds over 50 sacks a month of this feed.

Mark Hardin, who has about 3000 head of poultry, takes out four-horse wagon load every couple of weeks. Mr. Hardin says that the hens do much better on this feed than when fed on middlings, etc.; that when they are fed on Coulson's food they look well and are lively and spry and lay more.

P. Jensen, who has several thousand hens, feeds from forty to fifty sacks a month of this feed.

Walter Church, who has nearly 3000 hens, has been feeding Coulson's Egg Food for about a year, hauling it out by the four-horse wagon load; also C. C. Boysen, who has about 3000 hens.

These men are successful poultrymen, who have been raising poultry for the past ten years and longer and they know the value of good feed and proper feed for poultry.

So, when such men as these feed it and continue to feed it, it must be good.

Besides these gentlemen we have on our books the names of over 500 customers who live within a few miles of Petaluma. This speaks well for our home trade and our shipping trade is increasing rapidly.

Goods Brought From All Parts of the World.

Few realize the immense amount of goods purchased to make our Coulson's poultry foods. A carload of millet seed has been contracted for at St. Paul, Minn., to be delivered to A. R. Coulson & Co., Petaluma, by the first of November. Three carloads of prime cotton seed meal is to arrive in November and December from cotton mills near St. Louis, Mo. We buy flaxseed and oil meal from Oregon and shorts and middlings from mills in the State of Washington, contracting for them several weeks ahead. We get corn that comes from Kansas, rice from China, chile peppers from Japan, coaconut meal from Mexico, powdered willow charcoal that comes in car lots from the states of Pennsylvania and New York, high grade deodorized blood meal from packing houses in Kansas City, fresh ground butcher's bones shipped weekly from San Francisco, burnt bone, charcoal, from San Francisco, ginger root from Africa, fenugreek from France and

Germany, pepper from Japan, sulphur from France, ground eastern oyster shells from Atlantic coast, hulled oats and pea meals from San Francisco and other grains and feeds from all parts of the Pacific coast wherever we can get choicest feed at lowest prices.

If necessary we pay spot cash for our feed and feed materials thus getting the lowest prices.

Many think that all these things can be purchased right here. Yes, they can, but others ship them and reap the benefit of the high prices, therefore we seek to buy direct from starting point and save the middlemen's profit. By so doing we are able to make the very best of poultry foods and sell to the poultrymen all ready mixed and perhaps cheaper than he could buy the plain wheat. If you are in the poultry business, why not get two or three of your neighobrs to go in with you and purchase a carload of this feed and get the lowest prices and less freight.

Coulson's Egg and Feather Food, a balanced ration for laying hens, Coulson's Chick food for little chicks, Coulson's poultry foods are now for sale by more than 100 stores in California.

If no store handles it in your town, write to us and you can have it shipped to you by steamer or freight.

Just Off the Press, 10,000 36-Page Books, a combined catalog and poultry account book, free to poultrymen.

Petaluma Hens Fed on Coulson's Poultry Feed

RECOMMENDED FOR MERIT.

Petaluma, March 28, 1903.

A. R. Coulson, Petaluma, Cal.—Dear Sir: We have been feeding your chick and egg food for the last three months, and find them all right. The egg food is O. K. for when one feeds it he is sure to get more eggs.

And for the chick food, it cannot be beat, for our chicks are looking fine and our last batch of 310 is a week old and we have only lost two. The other hatch that came off on February 22nd are as tough as nails as they have been fed on Coulson's food right along.

We will continue to feed your foods to our little chicks and old hens.

Any one who has not fed the chick food to their chicks should give it a trial, and there will be one thing they will be pleased to find out—that they will not find many dead chicks in the brooder every morning. Attend to the brooder the way it should be run and the chick food will do the rest.

Wishing you success, we remain,
The Wild Flower Poultry Farm.

A. R. COULSON CO.

(Incorporated)

772-774 Main St., Petaluma, California

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

ANSWERS TO CORRESPONDENTS

Glorietta, N. M,, September 8, 1903.

Dear Editor: Will you kindly give me some information through the columns of the Cultivator? Is it all right to let the young pullets and cockerels run together, or should they be separated until they are developed? How soon after a pullet has commenced laying are her eggs suitable for hatching purpose? You say you use Lee's Lice Killer and Lambert's Lice Powder. I use the same and succeed by dint of the most strenuous effort in keeping the body lice pretty well killed off, although I can never get every last one. Are your fowls absolutely free from lice, and if so how many men would it take to keep a flock of 500 hens in this condition? I have only forty thoroughbreds now, but I am aiming at a flock of 500 and how on earth I am ever going to get through a flock of 500 by the slow process of putting two or three in a barrel at a time and afterwards dusting every one with powder is more than I can figure out. Is there no way of getting through it more quickly?

One thing more: When I start my breeding pens I, of course, want to segregate my best layers to breed from. Is it necessary in order to determine which are the best layers that every hen should lay in a trap nest? If so it seems to me that there is a pretty stiff job ahead liberating the hens. Do you recommend the nest that liberates the hen as soon as she has laid her egg, she carrying off with her a rubber ring around her neck with the number of the nest on it. By throwing some light on these (to me) cloudy questions you will oblige.—Subscriber.

It is best to separate the pullets and cockrels, they will both develop better if separated.

After she has laid her first clutch a pullet's egg can be hatched if she is a well developed pullet.

My fowls are practically free from lice. I keep them so by care, frequently examining them. I paint the perches with Lee's Lice Killer, keep a moth ball in each nest, and when I visit the trap nests to let the hens out I carry a little can of lice powder with a perforated top, examine the hen occasionally and powder her. When I find it necessary to put the hens in a box I have a large dry goods packing case, which will hold a dozen hens, paint a newspaper with lice killer at the bottom of the box, put a little straw in to keep the hens clean, leave them in the box from three to twelve hours. This is rarely necessary, as I give my hens good clean dust baths of road dust or earth and they keep themselves clean with the assistance of painted roosts, moth balls in nests and powdering occasionally.

The males require more care than the females, they are not as particular about their toilet, and if lousy will quickly affect the whole pen.

It takes one man's whole time to properly care for six hundred hens.

I have not tried the trap nest with the rubber ring, but think it would take fully as much time to find the hen and the ring after they have gone to roost at night, as my way of letting the hen out in the day time. If you are a real chicken crank you should be able to select your best layers by their gait and actions, put those few into a pen and test them.

I know of no better plan than the trap nest, and it pays most decidedly.

* * * *

FROM A CORRESPONDENT IN HONOLULU.

I am only an amateur and have about half an acre on the outskirts of Honolulu, and for five years have had very good luck, especially so during the last two years since I have taken the Cultivator. I could not possibly do without it now.

In regard to the absurd and utterly fallacious idea that mosquitos hurt the young chickens here, I proved long ago that it was not the case, by housing different broods of chicks in mosquito proof coops, only to find that they suffered as much as any others.

I learned later from the columns of the Cultivator that the trouble was "chicken pox" and cold in the head causing swollen eyes, and throat trouble, which being infectious spread very fast through the flock. I use your remedies and especially your "ounce of prevention" and have little trouble. Of course vigilance is the price of success as you have often told us, and I find I must be especially careful in damp rainy weather.—Mrs. J. H. S.

* * * *

Editor Cultivator: Your remarks in answer to one of my leters in regard to the coyote pest were splendid. But you left off the most important item, viz: The price of poultry and eggs. Only think of eggs, 25 to 30 cents per dozen. Turkies 16 to 18 cents live weight; chickens 12 to 15 cents live weight; ducks and geese, about 10 cents. I will not attempt to give the retail price, while the prowling coyote can be heard and seen prowling over our valley and no reward for his destruction. And when we think of efforts made to induce immigration to our land of sunshine and permit this scourge of civilization to remain, it looks the more startlingly inconsistent and unbusinesslike.—B. Walton, Compton.

In several counties of the state the matter of destroying coyotes is being persistently carried on, with encouraging results. In Humbolt, Mendocino and Sonoma counties premiums are paid on pelts of coyotes. In sections where these pests are most numerous great destruction of poultry of course exists. If there were a state law paying a bounty for coyote pelts it would soon reduce the damage done by these animals and in time work their final destruction.

POULTRY EXHIBITS AT THE STATE FAIR.

Poultry awards at State Fair, Sacramento, 1903:

Light Brahmas.

Mrs. F. H. Snow, San Jose, 1st on hen; 1st on cockerel.

Dark Brahmas.

Mrs. F. H. Snow, San Jose, 1st, 2nd on hens.

Mrs. F. H. Snow, San Jose, 1st on hen; 1st on breeding pen.

Buff Cochins.

D. A. Robertson, San Jose, 1st on cock; E. Van Every, Edendale, 2nd; Mrs. Sieleken, Calistoga, 3rd; D. A. Robertson, San Jose, 1st, 2nd, 3rd on hen; 1st, 2nd, 3rd, on cockerel; 1st, 2nd, 3rd on pullet; E. Van Every, Edenvale, 1st on breeding pen; D. A. Robertson, San Jose, 2nd on breeding pen.

White Cochins.

Mrs. Sielcken, Calistoga, 1st on cock; 1st, 2nd on hen; 1st on breeding pen.

Black Cochins.

Mrs. Sielcken, Calistoga, 1st on breeding pen.

Black Langshang.

Mrs. Sielcken, Calistoga, 1st on breeding pen; White Langshang.

Mrs. Sielcken, 1st on cock.

Barred Plymouth Rocks.

E. J. Boden, Sacramento, 1st, 2nd on cock; 1st, 2nd on hen; H. R. Campbell, Petaluma, 3rd on hen, 1st on cockerel; E. J. Boden, 2nd, 3rd on cockerel; 1st, 2nd on pullet; H. R. Campbell, 3rd on pullet; E. J. Boden, 1st on breeding pen; H. R. Campbell, 2nd and 3rd on breeding pen.

Buff Plymouth Rocks.

Percy Ward, Fruitvale, 1st, 2nd, 3rd on hen; 1st on breeding pen; D. D. Briggs, Los Gatos, 2nd on breeding pen.

White Plymouth Rocks.

D. B. Richardson, Sacramento, 1st on hen; S. A. Hendren, 1st, 2nd, 3rd on cockerels; 1st, 2nd, 3rd on pullets; 1st on breeding pen.

White Wyandottes.

E. Van Every, Edenvale, Cal., 1st, 2nd, 3rd

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Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W Leghorns

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White Leghorns AND Barred Rocks

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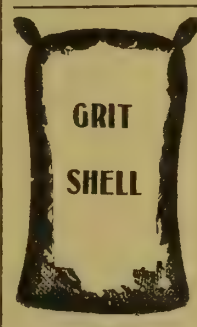

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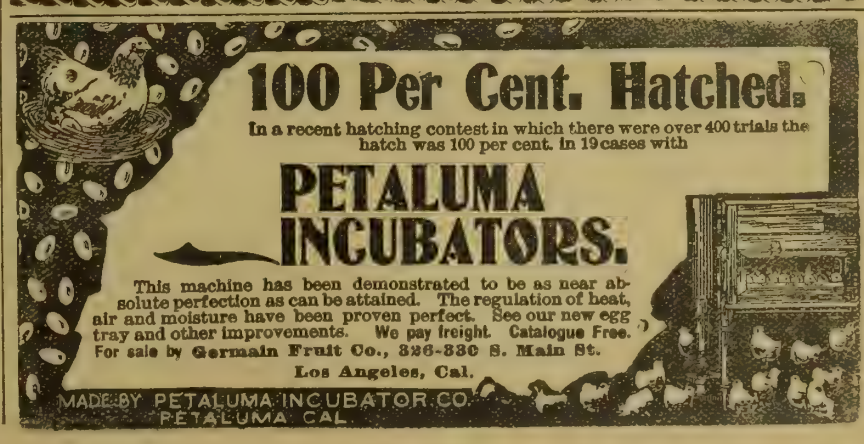

on cock; D. D. Briggs, Los Gatos, 1st on hen; Mrs. Sielcken, Calistoga, 2nd, 3rd on hen; E. Van Every, 1st, 2nd on cockerel; Ernest Gager, Calistoga, 3rd; E. Van Every, 1st, 2nd on pullets; D. D. Briggs, Los Gatos, 1st on pen.

Mottled Javas.

Brown Leghorns.

Williams Bros., Fruitvale, 1st, 2nd, 3rd on cock; 1st, 2nd on hen; M. Coffey, Sacramento, 3rd on hen; Williams Bros., 1st, 2nd on cockerels; M. Coffey, 3rd on cockerel; Williams Bros., 1st, 2nd on pullets; M. Coffey, 3rd; Williams Bros, 1st, 2nd on breeding pen; M. Coffey, 3rd.

White Leghorns.

Williams Bros., Fruitvale, 1st on cock; Miss C. B. Carrington Haywards, 2nd; E. Van Every, Edenvale, 3rd; Miss C. B. Carrington, 1st on hen; Williams Bros., 2nd, 3rd; Miss Carrington, 1st on cockerel; Williams Bros., 2nd; D. A. Robertson, San Jose, 3rd; E. Van Every, 1st on pullet; Williams Bros., 2nd and 3rd; Williams Bros., 1st on breeding pen; E. Van Every, 2nd; D. A. Robertson, 3rd.

White Leghorns.

Mrs. Sielcken, Calistoga, 1st on cock; 1st on hen; 1st on breeding pen.

Buff Leghorns.

Mrs. Sielcken, 1st, 2nd, 3rd on hens.

Black Minorcas.

E. Van Every, Edenvale, 1st, 3rd on cock, W. S. Childs, Fruitvale, 2nd; W. S. Childs, 1st, 2nd, 3rd on hen; 1st, 2nd on cock; E. Van Every, 3rd; E. Van Every, 1st, 2nd on pullets; W. S. Childs, 3rd; W. S. Childs, 1st on breeding pen.

White Minorcas.

Mrs. Sielcken, Calistoga, 1st, 2nd, 3rd on hen; Ernest Gager, Calistoga, 1st on cockerel; Mrs. S. A. Hendren, Sacramento, 2nd; Mrs. Hendren, 1st, 3rd on pullets; Ernest Gager, 3rd; Mrs. Sielcken, 1st on breeding pen.

Bearded Silver Polish.

Mrs. F. H. Snow, San Jose, Cal., 1st on cock; 1st on hen; 1st on pullet.

White Crested Black Polish.

D. D. Briggs, Los Gatos, 1st on cock; Mrs. F. H. Snow, San Jose, 2nd; D. D. Briggs, 1st, 2nd on hen; Mrs. T. H. Snow, 3rd.

Silver Spangled Hamburgs.

D. D. Briggs, Los Gatos, 1st, 3rd on cock; Mrs. F. H. Snow, 2nd; D. D. Briggs, 1st, 2nd on hen; Mrs. F. H. Snow, 3rd; D. D. Briggs, 1st, 2nd on cockerel; D. D. Briggs, 1st, 2nd on breeding pen; Mrs. F. H. Snow, 3rd.

Houdans.

Mrs. C. W. Delerding, Riverside Road, Sacramento, Cal., 1st on cock; 1st, 2nd, 3rd on hen; 1st on breeding pen.

Black Breasted Red Game Bantams.

M. Coffey, Sacramento, 1st on cock; Mrs. F. H. Snow, San Jose, 2nd; P. Ward, Fruitvale, 3rd; M. Coffey, 1st, 2nd, 3rd on hen; Mrs. F. H. Snow, 1st, 2nd, on cock; 1st on pullet; 1st on breeding pen.

White Indian Games.

Mrs. Sielcken, Calistoga, 1st on pullet.

Silver Duckwing Game Bantams.

Mrs. F. H. Snow, San Jose, 2nd on hen.

Golden Seabright Bantams.

Mrs. F. H. Snow, San Jose, 1st, 2nd on hen; 1st on breeding pen.

Silver Seabright Bantams.

Mrs. F. H. Snow, San Jose, 1st, 2nd on hen; 1st on breeding pen.

White Cochin Bantams.

S. B. Nugent, San Jose, 1st and 2nd on cock; E. Van Every, Edenvale, 3rd; S. B. Nugent, 1st, 3rd on hen; E. Van Every, 2nd; E. Van Every, 1st, 3rd on cock; S. B. Nugent, 2nd; E. Van Every, 1st on pullet; S. B. Nugent, 2nd; E. Van Every, 1st on breeding pen.

Black Cochin Bantams.

G. B. Nugent, San Jose, 1st on cock; Mrs. F. H. Snow, San Jose, 2nd, 3rd; G. B. Nugent, 1st, 2nd on hen; Mrs. Sielcken, Calistoga, 3rd; G. B. Nugent, 1st, 2nd on cock; 1st, 2nd on pullet; Mrs. Sielcken, 1st on breeding pen.

Buff Cochin Bantams.

Mrs. Sielcken, Calistoga, 1st on hen; Mrs. F. H. Snow, San Jose, Cal., 2nd, 3rd on hen; and 1st, 2nd on cockerel; 1st and 2nd on breeding pen.

Cornish Indian Games.

Percy Ward, Fruitvale, 1st, 2nd on cock; Mrs. F. H. Snow, San Jose, 3rd; Percy Ward, 1st, 2nd, 3rd on hen; 1st, 2nd on cockerel; Mrs. F. H. Snow, 3rd; Percy Ward, 1st, 2nd on pullet; Mrs. F. H. Snow, 3rd; Percy Ward, 1st, 2nd on breeding pen; Mrs. F. H. Snow, 3rd.

Buff Orpingtons.

W. S. Sullivan, Agnews, 1st on cock; D. D. Briggs, Los Gatos, 1st on hen; Geo. Mellar, Willows, 2nd and 3rd; 1st, 3rd on cock; 1st on pullet; W. S. Sullivan, 2nd and 1st on breeding pen; Geo. Millar, 2nd, 3rd.

Partridge Plymouth Rocks.

Mrs. Sielcken, Calistoga, 1st, 2nd on hens.

Pigeons.

Red Runts, W. S. Childs, Laurel Grove Park, 1st.

Silver Runts, W. S. Childs, Laurel Grove Park, 1st.

Red Tumblers, Percy Ward, Fruitvale, 1st.

White Dutches, Williams Bros., Fruitvale, 1st.

Silver Runts, G. B. Nugent, San Jose, 2nd.

White Crested Fan Tails, M. Coffey, Sacramento, 1st, 2nd.

White Plymouth Rocks.

D. B. Richardson, Sacramento, 2nd.

White Wyandottes.

D. B. Richardson, Sacramento, 1st.

Pearl Guineas.

Best Pair, Mrs Sielcken, Calistoga, 1st, 2nd

DUCKS.

Gray Call Ducks.

James, Hague, Oakland, 1st, 2nd.

Blue Swedish.

James Hague, best pair, 1st, 2nd.

James Hague, best pair under 6mos, 1st.

Indian Runners.

James Hague, best pair, 1st.

James Hague, best pair under 6 mos., 1st.

Rouen Ducks.

James Hague, best pair, 1st, 2nd.

Cayugas.

James Hague, best pair, 1st, 2nd.

James Hague, best pair under 6 mos., 1st, 2nd.

Muscovy.

W. S. Child, Fruitvale, best pair colored, 1st; James Hague, Oakland, 2nd; Coloma Colored Muscovy Duck Farm, Coloma, Cal., 3rd.

James Hague, best pair colored under 6 mos., 1st, 2nd; Colored Muscovy Duck Farm, 3rd.

Aylesburys.

James Hague, 1st.

Pekin.

James Hague, 1st, 2nd; Mrs. Sielcken, 3rd.

James Hague, best pair under 6 mos., 1st, 2nd.

OL' DOC HOPKINS.

Doc Hopkins, you bet, never put on much style;
His clo'es is all shiny—he don't care for that.
He sports an ol' stovepipe jest once in a while,
But most of the time its a floppin' gray hat.
No, he ain't noways slick,
But I take heaps of stock,
When I'm anyways sick,
In ol' Doc.

Doc Hopkins ain't much on these new fangled drugs;
He stan's by straight rhubarb an' quinine an' such.
He don't study microbes an' bactery bugs.
An' he ain't foolin' 'round with them X-rays, not much!
No, he ain't up to date,
But there ain't no half cock
In his ways. He's fust rate,
Is ol' Doc.

Doc Hopkins, he's jes a back number, I guess,
But he's doctored our folks for the many's a year.
He don't turn his back when a man's in distress,
But he rolls up his sleeves an' he straightens his gear.
He's a rough sort o' cuss,
If you're easy to shock,
But there's many that's wuss
Than ol' Doc. —Exchange.

VANITY.

The sun comes up and the sun goes down,
And day and night are the same as one;
The year grows green and the year grows brown,
And what is it all when all is done?
Grains of somber or shining sand,
Sliding into and out of the hand.
And men go down in ships to the seas
And a hundred ships are the same as one;
And backward and forward blows the breeze,
And what is it all when all is done?
A tide with never a shore in sight,
Setting steadily on to the night.
The fisher droppeth his net in the stream,
And a hundred streams are the same as one;
And the maiden dreameth her lovelorn dream,
And what is it all when all is done?
The net of the fisher the burden breaks,
And always dreaming the dreamer wakes.
—Harriet Prescott Spofford.

A ROMANCE OF ARCADIA.

Evangeline West was riding on an errand of grave import, but stopped long enough at the foot of a steep declivity leading to a brook to give her tired horse a long cool draft of the clear, swirling water before he forded the stream. He was a livery horse, hired at the railway station, no other means of rapid conveyance being available.

The young woman was home again after several years of absence during which she had improved her time and opportunities, and she was glad to return to her native heath, the land of Evangeline, the Arcadia of her heart. She looked far up the woodland brook with a fond appreciation of its enchanted beauty. Evergreen trees, pendant willows, silver birches and graceful elms fringed the banks; speckled trout leaped and splashed unafraid in the sparkling water. To complete the symphony a single musical note at intervals pierced the odorous silence—the call of the bellbird to its mate.

"Oh," cried the girl, longing to hear a human voice, "surely
This is the forest primeval.
In the Arcadian land on the shores of the basin of Minas,
"Here, too, is Evangeline, but where is her Gabriel?"

"At your service," said a strong, masculine voice at her ear, startling her so that she dropped her bridle rein over her horse's head. She turned and saw a man in clerical garb, one of the traveling preachers of the province, and looked at him ungraciously, annoyed at his quick application of her impromptu question addressed solely to herself. Giving him a cool nod, she attempted to secure her bridle which was entirely beyond her reach. Her horse, feeling its freedom, sprang forward, fording the brook with a rapid bound and galloping up the further side at a pace that nearly unseated its rider.

It would have served her right if the new Gabriel had left her to her fate, but after a lapse of time enough for him to observe her plight and, as she thought, angrily enjoy it, he rode up gently, not to hasten the speed of Evangeline"s horse, caught the errant bridle and restored it to her hand.

"Peter Grant, at your service," he said, touching his hat stiffly. "I am on my way to visit a sick woman. Pardon me," and with a leap his horse shot ahead and was gone.

"He knows how to ride a horse if he is a minister," thought Evangeline. "Peter Grant! Why, we were schoolmates, but he has forgotten me. Gabriel? Not that Scotch Presbyterian, with his books and preaching and his old-time views borrowed from Knox and Calvin."

Then she urged her horse forward, for she, too, was going to see a sick woman—her dearest friend, Aunt Maggie, who had been ailing for some time, and she had been delayed and had heard no tidings for some days. But such is the power of hopeful youth to look on the bright side and throw off dark forebodings that she found herself wondering how Peter Grant had succeeded in changing his troublesome red hair of their school days to a bronze brown, and what had become of the freckles that had marred his face as a youth's before he went away to the college at Wolfville.

"I must ask Aunt Maggie about him," she concluded. "He's a good-looking sort, although he did not promise much in the old days, and he knows how to ride and—he did not recognize me—that pleases me."

A few more miles of hard riding and Miss West reached a farmhouse of the old Arcadian type, with 50-year mosses on its unpainted roof and a well sweep of antiquated pattern picturesquely adorning the yard. Another horse was picketed there, and it saluted her with a cheerful whinny—it was the animal Peter Grant so vigorously bestrode.

"Oh!" she cried out in sudden alarm, "can it be possible that Aunt Maggie is the very sick woman he was coming to visit? I pray that I may not be too late!"

As she hurried into the kitchen she found it filled with women of the type of many of Aunt Maggie's neighbors, and a murmur of strange unmusical voices saluted her unwilling ears. They had never in their lives had a chance to peer into the cupboards of this house before; Aunt Maggis was not of their sort, and to Evangeline their presence savored of sacrilege. They all stared at the stylish figure in the tailor-made costume and they failed to recognize Vangie West.

"How is she? My Aunt Maggie—is she very ill?"

"Jest alive—that's all. The preacher—he's up there now—be you her sister's gal—what she brung up?"

"Yes, yes. What room is she in? Oh, take me to her. It is so long since I was here I feel like a stranger."

"What hendered ye from comin' sooner, miss?" asked a rasping voice, which Evangeline remembered as belonging to a layer-out of the community. Threading her way through the crowd the girl sought the room where her sick relative lay, a strange sound of monotonous singing leading her thither. There, tossing and delirious, lay the sick woman, burning with fever. The room was crowded with neighbors—women who gathered at a death with the scent of hawks, yet who felt—each one of them—that theirs was a religious duty. There, too, was Peter Grant, lining out a hymn which was only sung to the dying. As Evangeline entered they were chanting monotonously these hopeful lines: "For while the lamp holds out to burn
"The vilest sinner may return."

Women with corrugated brows and nasal tones sang the words in a weird discord, to which the preacher added a robust and melodious bass, for which effort Evangeline hated him. Singing such dreadful stuff to her dear Aunt Maggie, the saintliest soul that ever drew breath! She held up a vigorous hand and bade them stop.

"Don't you see that she is far too ill

My name on a lamp-chimney says, "Pay double for me; I give double light and don't break."

MACBETH.

How to take care of lamps, including the getting of right-shape chimneys, is in my Index; sent free.

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T. C. PECK, Asst. Gen. Pass. Agt.
Los Angeles, Cal.

Titan of Chasms

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Grand Canyon

You can have a copy, free, from any agent of the

Santa Fe

for this sort of thing? All leave the room, please, and let her have air. I will take care of her now."

"She should be permitted to make her peace with God," the Rev. Peter Grant spoke, partly from habit and partly from conviction. He knew who this young woman was now, and dared to combat her aggressive action.

"She never had any falling out with Him," Evangeline said reverently, "but now that you know who I am and why I am here, you will leave her to me. I am her nearest relative, but more than that I am a trained nurse and thoroughly familiar with fever cases. Where is the doctor—she surely has medical care?"

"He has given her up," said one of the retreating women with a sly satisfaction.

"Given her up! How dared he? And why do you speak of such a possibility before her?"

"Oh, she doesn't sense anything that is said now," complained one of the cronies, taking a reluctant departure.

The preacher took himself off with the others, but he gained a reluctant consent to call the next day to learn how the sick woman was doing. He did not really expect to find her alive, and his slow, well-regulated faculties received a healthy shock when Vangie, ideal in her nurse's gown and white cap and apron, informed him that she had moved the sick woman from the south room to the north room, from which the stuffy carpet and obstructing furniture had been removed.

"I have telegraphed for ice and a modern doctor, and she is drinking cool spring water and is better already."

"And her immortal soul?" asked the man of God, humbly.

"I am more interested in curing her mortal body. Have you never heard of Aunt Maggie"s goodness and charity to all who need help and consolation—how she brought up a poor orphan child, gave her a home and the love of a mother, teaching her the value of right living and unselfishness? I was that child. And I am not going to let her die—not yet."

"And may I not see her again?"

"Oh, yes. You may come and preach the gospel of cheerfulness to her when I think her strong enough," and Evangeline gave her would-be Gabriel a wicked little smile that the man—not the minister—understood perfectly. It certainly is wonderful how that rascally god Cupid gets in his work regardless of time and place.—Chicago Record-Herald.

SELECTING A SECRETARY.

I once heard a business man say that the best secretary he ever had he selected wholly from her appearance. Thirty women came in one rainy day in answer to an advertisement. Twenty looked dejected and sloppy, and ten of the twenty had forgotten their umbrellas or overshoes. Five were overdressed, and had come in cabs. Four were silly, giggling little girls of fifteen or so, and one came freshly groomed, tailor-made, with crisp linen, stout boots, neat umbrella, and hair dressed for windy, rainy weather. He selected the last without recommendation, and found her just what he had judged from her appearance—a good worker and a wise associate.

Of course, some one of the dejected, wet tired girls might by chance have "panned out" an ideal worker with a few days' rest and a few weeks' salary for fresh clothes. Ability and real merit are often lost in the misery that comes from exhaustion and failure and fear. But the business man does not know these things. He is not blessed with second sight. He gets at his decision from experience, not from prophetic visions, and he does know that more than half the time the girl who looks careless is careless. And so, in a competitive examination of workers, men as well as women, the swift eye of the trained employer is pleased with external charm. His judgment becomes esthetic rather than profound—and really it is the best he can do. —September Woman's Home Companion.

HE WAS TIRED.

Barber—How will you have it cut, sir?

Peppery—Both short.

"Both? Hair and beard?"

"No; hair and conversation."—San Francisco Wasp.

RECIPES.

Stuffed Beefsteak is as nice for dinner as a much more expensive roast, and it can be prepared from a rather poor flank or round steak; pound well, season with salt and pepper, then spread with a nice dressing—many use some of the bread crumbs—roll up and tie closely with twine (which always save from the grocer's parcels), put it in a kettle with boiling water, boil slowly one hour, take out and place in a dripping pan, adding water in which it was boiled, basting frequently until a nice brown, and making gravy of the drippings; or you may put it at once in the dripping pan, omit the boiling process, skewer a couple slices of pork on top and add a little water, baste frequently, and if it bakes too rapidly cover with a dripping-pan. It is delicious sliced down cold.

How to make a nice gravy is a problem many housekeepers never solve. Remember that grease is not gravy, neither is raw flour. Almost any kind of meat liquor or stock soup, from which all fat has been removed, may be made into a nice gravy, by simply adding a little seasoning and some thickening; if browned flour is used for the latter, the gravy will require but little cooking, but when thickened with raw flour it must be cooked until thoroughly done, or the gravy will taste like so much gummy paste. It is best to brown a quart of flour at a time, just a light brown. Put in a skillet, set in oven or on top of the stove, stir often until it is light brown, put into a wide-mouthed bottle, cork and keep for use. All gravies must be stirred over a rather hot fire, as they must be quickly made, and must boil, not simmer.

WHEATEN GEMS.

Mix one teaspoon baking powder and a little salt into one pint flour; add to the beaten yolks of two eggs one teacup sweet milk or cream, a piece of butter, melted, half the size of an egg, the flour with baking powder and salt mixed, and the well beaten whites of the two eggs. Beat well, bake immediately in gem pans in a hot oven, and take out and send to the table immediately.

SPONGE CAKE.

Three eggs, one and a half cups powdered sugar, two of sifted flour, two tea-spoons of cream tartar, half cup of cold water, teaspoon soda, grated rind and half the juice of one lemon; bake in dripping pan.

SNOW CAKE.

Half teacup butter, one of sugar, two of flour, three-fourths of sweet milk, whites of four eggs, two teaspoons baking powder; flavor to taste.

THE GIRL WHO IS LOVED.

A woman cannot be said to be truly attractive or popular unless she is loved and admired by the members of her own sex as well as the opposite. She must be welcomed by all, old and young, male and female, or she cannot be called an attractive woman without reservation.

She must be herself, her best self, at all times and with all people; she must think and act for herself, and express her own opinions, rather than try to copy some person she may admire or who is admired by the lords of creation. Individuality, when combined with polite manner and tact, is always attractive. A woman's happy, infectious laugh is better than medicine or advice, and her cheery presence is as welcome as the sunshine.

A girl to be truly popular never says mean things about other girls, thinking that the men will like her better, and she doesn't try to monopolize the attentions of all the men at once, but is willing to let other girls have their share of admiration and attention along with her. She doesn't mope and retreat within herself if there are no men about to admire her, but she cheerfully sets about making the best of matters without them, and making such companions as she has happier and brighter for her presence.

If she has a grievance she keeps it to herself, for a woman with a grievance is very soon voted a bore. The weeping, fainting, sad-eyed young woman is very much out of style nowadays, not only in novels, but in real life, and the healthy, happy, independent, cheerful and sunny girl has totally eclipsed her in popularity.—American Queen.

HOME.

Blessed Word and blest estate
Lifting man to earthly Heaven;
Thrice blest again, is he by fate,
To whom Life, Work and Love is given.

HOMELY HINTS.

The Cure of Stings.—All sorts of stings—whether from wasps, bees, hornets or bumblebees—should be sucked to remove as much poison as possible; then have a slice of acid fruit, apple, tomato or peach, or a crushed berry, or grape, either ripe or green, bound lightly to the wound. If the pain is very severe after a minute take off the fruit, wash the sting in warm water and bathe it well in alcohol. Then wet a folded linen rag in either alcohol or vinegar, and bind on the sting. If neither alcohol, vinegar, nor fruit of any sort is at hand, try a bruised plantain leaf. Change the application, whatever it is, every ten minutes until the pain subsides.—Good Housekeeping.

Kerosene will remove ink stains and fresh paint while nothing takes out blood stains better than cold soapsuds to which kerosene has been added.

Irons that have been put away sticky should be well scraped with a thin knife, then rubbed with a rough cloth, moistened in kerosene.

A spoonful of kerosene in boiled starch keeps it from sticking, but do not use enough to make it smell of the oil.

When frying smelts, sprinkle with lemon juice before rolling in eggs and crumbs. It keeps the flesh white and gives it a good flavor.

New baking tins if given a good rubbing with fresh lard and then thoroughly heated in the oven, will be protected against rust. Indeed, lard or grease is better for cleaning them after they have been used than soap and water. And cake or bread dough is not so likely to stick. Whiting or soda rubbed on with a damp cloth will remove burnt stains from earthenware pudding dishes.

It's a good plan to take care of gilt picture frames yourself, they are so easily injured with vinegar or acid preparations. For their ordinary dusting, use a clean, soft dust cloth. When extra cleaning seems absolutely necessary, apply rain water with a few drops of ammonia. By the way, soft water is ever so much better for any domestic purpose, as everybody knows, because it is more dissolving.

President Thwing of Western Reserve University, says this about the ways in which students have worked their way through college. The records of our boards of education show many instances of these heroic efforts.

Not far from half of the students in American colleges are dependent wholly or in part on their own efforts for an education. The methods and forms of self-help which students adopt are manifold and interesting. I know of students serving as barbers, tailors, street-car conductors, clerks in gentlemen's furnishing goods stores, and grocery stores, selling meat, milk, and butter from carts; serving as watchmen on college grounds; distributing circulars and books; tollgate keepers; street-lamp lighters; janitors; sextons; choir masters; men-of-all-work about the house and in the house; waiters in public restaurants as well as in private houses. Of course in this work, too, are included various forms of assistance which are rendered in and through the college itself, such as secretaryships, assistantships in laboratories and libraries.

It may be said that a man who comes to college with a knack in hand and brain and with not a dollar in his pocket, provided his health be good, purposes high, ability great, will find such ways of helping others, and so of helping himself, that he can with assurance promise himself a first-rate education. Too many boys and girls think that the colege is indifferent to the student who is poor. Every such boy and girl should knock at the college portal. The door will open, and open inward, far more easily than they possibly thought.

BY ERNEST BRAUNTON, GLENDALE CAL.

RURAL SCHOOL GROUNDS.

Now that the time is drawing near for the opening of the fall term of school, interest should be awakened to the importance of beautifying the school grounds,

It is strange that a community will so often decorate a cemetery and allow the school grounds to remain bare. Would it not be better to care for the living rather than the dead?

It is certainly too late to benefit the latter yet not too early to instill a love of plant life into those who attend school.

Another strange fact coming under the writer's observation, not far from Los Angeles, was a community making strenuous efforts to raise a fund for the purchase of a public square and the ornamentation thereof, while their school yard of nearly the same dimensions was entirely bare of trees or plants.

Is it not strange, that the only piece of land in a district in which all have common ownership should be the most unsightly piece in the community No plausible excuse can be found for such conditions—it is so easy to get started right in California. The State University will always aid you in the matter of seeds and plants and few in the district but have plants or at least cuttings to spare of such as root readily with little care. This department of the Cultivator is ready to aid you in the matter of advice, list of suitable trees and plants or even with a hastily sketched plan. We are here for that purpose and are anxious to help such work along.

* * *

FERTILIZING CHRYSANTHEMUMS.

Experiments in feeding 'Mums, carried on by experts of the French Government, have brought out the fact that these plants need very rich food and that the following elements are essential in the order named: Phosphoric acid, Potash and Nitrogen, Their "complete manure" was composed as follows: Fish guano, 25 per cent; dried blood, 16 per cent; sulphate of potash, 24 per cent; double sulphate of potash, 24 pvbgkqjcmfw super phosphate, 35 per cent; The soluble manure consisted of phosphate of potash, 54 per cent; nitrate of soda 46 per cent; for a soil they advise two-thirds sandy loam with the balance of good leaf mold. Plants treated to large quanities of the above manure produced a marvelous crop of flowers.

* * *

A SHOWY NATIVE.

Just now the hills in the vicinity of Los Angeles as well as many other sections, are covered with Yucca stalks loaded down with the ripening seed pods. For a dry location or as a background or a cactus collection, nothing can surpass the Yucca either for beauty or general effect.

Our local species Yucca Whipplei is known as Spanish dagger or Spanish bayonet and is much prized the the world over, except of course at home. It is very easy indeed to grow from seed and the plants may also be transplanted from the hills at any time and with little chance of failure.

Where one has plenty of room to work a large mass of them the effect when in full bloom, is not surpassed by any tree or shrub.

Farmer Ragweed—Has Bill learned anything tew college?

Mrs. Ragweed—No; an' wuss'n that, he's forgot what he uster know. Says he can't eat pies without a fork.—Chicago News.

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

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Los Angeles Markets.

Los Angeles, Sept. 17.

Conditions in the local market are not materially changed from last week. Butter is higher and firmer at quotation prices. It is an interesting fact that there are 1,300,000 pounds of butter in the warehouse at this time as against half this amount last year at this date.

Eggs remain firm at 29 and 30 cents a dozen for prime stock. Choice vegetables are quickly disposed of. Potatoes in first grade are in sharp demand. Hay and grain are firm notwithstanding a fine crop was harvested.

Butter.

B. of T. Creamery, per 2lb roll..		65
Dairy, do		60
Cooking	52½	57

Cheese.

California and 3-lb hand....		16½
Cal. Downey or Anchor ...		15
Coast, full cream 16		17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.30	.32
Fresh Eastern	.25	.27
Store, case count	.24	.25

Potatoes.

River		1.25
Salinas		1.50
Local, cwt.		1.00
Sweet potatoes		2.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, yellow, cwt		1.10
Beets, per 100 lbs	.60	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chilles, green per lb		.02½
Lettuce, per sack	.25	
Radishes, doz. bunches	.15	

Fruits; Fresh.

White figs, 20 lb box......		.40
Black figs		.50
Cantaloupes, per crate		2.50
Watermelons, per doz.	.40	2.00
Strawberries, box, fancy ...	.04	.06
Lemons, per box	.75	1.50
Pears, fancy northern, box		1.00
Local pears Bartletts		.60
Limes, per 100	.90	1.25
Prunes, Hungarian, box 30 lbs		.75
Peaches, per box	.40	.75
Northern apples, 40 lbs		1.25
Four tier belleflower		1.25
Local		.60

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08
Peaches, per box	.40	.75
Northern Apples, 40 lbs.	.80	1.10
Local apples, per bx 30 lbs.	.25	.40

Poultry.

Spring chickens	.16	.17
Hens, No. 1 per lb	.13½	.14
Ducks, per lb	.11	.12
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	**4 00**	**5 00**

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa, large bales....	10.00	12.00
Corn, Oct. delivery		1.35
Barley	1.00	1.02½
Wheat	1.45	1.50
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.60
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75
Chicken wheat		1.65
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, Sept. 17.

Butter showed a material increase in the past week, especially first-class grades. The market for cheaper stock was fluctuating, unsatisfactory, owing largely to the liberal supply on hand and the slow movement of the commodity.

Prices quoted are as follows:

BUTTER—Per lb.:

Creamery extras	.31	
Creamery, good to fancy	.27	@30
Dairy extras	.25	@26
Dairy choice	.21	@24
Store	.18	@20
California storage	.24	@26
Eastern Creamery	.23	@24

CHEESE—Per lb.:

Cal. Creamery, mild new, extra	14	@15
Cal. Creamery, mild new, choice....	13½	@14
Young America	14	@15½
Eastern, New York Cream	14½	@16

Eggs and Poultry.

There is no perceptible change in the egg market. Ranch eggs are offered in limited quanities and rapidly disposed of at firm prices. The movement in storage stock is liberal and a slight advance is quoted for the better quality lots.

EGGS—Per doz.:

Ranch, selected, large	37	@37½
Ranch, good to choice	32	@36
Store	Nominal	
California storage	25	@27
Eastern	20	@25

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $5@6; Fryers, $3.50@4.50; Broilers, large, $3@4; small, $2.50@3; Hens, $4.50@6; Ducks, per doz., old, $3.50@4.50; young, $4@5; Turkeys, young, per lb., 20@23c; Geese, per pair, $1.50@1.75; Goslings, $2@2.25; Pigeons, per doz., young, $1.50@2; do, old, $1.50.

Fruits and Vegetables.

The demand for fruits in the past few days has been mostly confined to jobbers, but the local market has maintained a fairly steady tone. Four tier apples brought top quotations yesterday.

The season for the fresh stock is practically over and future offerings of first quality Fruit will doubtless be cold storage stock. Peaches were quoted at a lower range of prices.

Supplies of Prunes were limited and values showed a slight hardening. Figs were quoted at lower prices and the market was not cleaned up. Liberal quantities of fancy stock were left unsold late in the day. Cantaloupes held up well at the recently improved prices, but under increased supplies and cautious buying prices for Nutmeg Melons receded and the market was easy at the decline. Offerings of Watermelons were limited and firm prices prevailed. Quinces were in over supply and were offered at sharply reduced figures. Table grapes met with a good demand and the market presented a steady tone.

Wine grapes continued abundant and under limited trading the market leaned toward easiness, although prices showed no marked depreciation.

APPLES—Per box, common to choice, 25@75c; fancy, 85c@$1.25; Crab apples, per box, 40@75c.

PEACHES—Per box, 50@90c; carriers, 75@90c; large open boxes, 75c@$1; bulk, per ton, Clingstones, $20@27.50.

PEARS—Per box, No. 1 Bartlett, $1.00@1.40; common, 75c@$1; other varieties, per box, 40@85c.

PRUNES—Per box or crate, 50@65c.

FIGS—Per box, 40c@$1.

CANTALOUPES—Per crate, $1.50@2.50.

NUTMEG MELONS—Per box, 75c@$1.25.

WATERMELONS—Per 100, 20@35c.

GRAPES—Per small box, 25@65c; crate, 75@85c; large box, 60c@$1; as to variety; Wine Grapes, per ton, Zinfandel, 20@25c.

POMGRANATES—Per box, 25@50c.

QUINCES—Per box, 25@50c.

BERRIES—Per chest: Strawberries, Longworth, nominal; large varities, $1.50@4; Blackberries, $3@5.50; Raspberries, $4@6; Huckleberries, per lb., 6@8c.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, nominal, as to quality; valencias, $1.25@2.50; Lemons, 75c@$2.50; extra, $3@3.50; Grape Fruit, $1@2; Limes, $6.

VEGETABLES—Tomatoes, per box, river, 40c@75; do, bay, 50@85c; Green Peppers, per box, Bell, 25@40c; Chile, 25@40c; String Beans, per lb., 2@3c; Wax, 2@3c; Lima, per sack, 75c@$1.25; Green Peas, per lb., 2½@3½c; Egg Plant, per box, 35@50c; Summer Squash, per box, 25@40c; Garlic, per lb., 2@3c; Green corn, per sack; 75@$1.50; crate. 75c@$1.75, Okra, per box, 35@50c; Marrowfat Squash, per ton, $10@$$12.50; Cucumbers, per box 25@40.

ONIONS—Yellow, per ctl., 50@70c.

POTATOES—Per ctl.: River Burbanks, 60c @$1; Early Rose, nominal; Salinas Burbanks, $1@1.50; Sweet Potatoes, $1.75@2 25.

The movement in river Potatoes continues small, but under light receipts the market was reported yesterday steady at former prices. Bids of 75c were still made by shippers, but sellers were unable to meet this figure. Salinas Burbanks were offered at cheapers rates, supplies being heavy and somewhat excessive. The local trade is now running mostly on this variety and the outward movement at the decline was reported fairly good. Sweet potatoes were offered at still lower rates, supplies greatly exceeding current needs. Onions were steady at former prices.

Dried Fruits, Nuts, Etc.

Keen interest is shown in all lines of Dried Fruits, says the San Francisco Chronicle, by the buying element and the local market presents a firm tone at strongly held prices. While Peaches still lead in point of demand under brisk speculative buying, the demand for other Fruits is of liberal proportions and the aggregate sales are exceptionally large. Prunes are meeting with a good demand and shorts filling in on October delivery contracts are paying well up to the top rate for available offerings. Holders are slow to part with their stocks and indications tend toward a hardening of values. Honey is steady at quotations with a fair outward movement reported.

DRIED FRUITS—The following quotations are made on car load lots f. o. b., to all California shipping points for 1903 crop. Per lb. the prices are:

APPLES—Evaporated, 5@6c.

APRICOTS—Royal, fancy, 9@9½c; choice, 7½@8½c; Moorparks, choice, 9@11c.

PEACHES—Choice, 5¼@6½c; fancy, 7@7½c; peeled, in boxes, nominal.

PEARS—Choice, 6@7c; fancy, 8@9c.

PLUMS—Pitted, 5@7c; unpitted, 1@1½c.

FIGS—White, 4½@5c.

NUTS—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard, 7@8c; Pecans, 11@12c; Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c;

HONEY—New Comb, per lb., White, 12@13c; Light Amber, 11@12c; Extracted Water 6¼c; three-crown, 6¼@6½c; four-crown, 6¾@7c.

BEESWAX—Per lb., 30c.

Peanuts, Eastern, 5½@6c; do, California, 5@6c; California Walnuts, soft shells, 12@13c; Chestnuts, Italian, nominal.

Live Stock.

Former prices for the various offerings of Live Stock are maintained with a marked degree of steadiness and the market reflects the characteristic features fully reviewed for some time past.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin steers, 6½@7c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 5@5½c, gross weight; heavy, 4½@4¾c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

4¼c, gross weight; Ewes, No. 1, 3¾@4c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb. live weight.

HOGS—Per lb; Hard grain-fed, weighing alive, 140 lbs and over, 5¾@6c; weighing under 130 lbs, 5¼@5½c; weighing 260 to 350 lbs, 5½c; rough heavy, 4½@5c.

Hay and Feed Stuffs.

STRAW—Good to choice, per bale, 45@60c.

FEED CORN MEAL—Choice grades, per ton $33@34.

HAY—Prices on New Hay, per ton: Wheat, $11@15; Wheat and Oat, $10@13; Oat, $9@12.50; Barley, $8.50@11; Clover, $9@10.50; Alfalfa, $9@11.50; Stock, $8@9.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26.50@28.

BRAN—Per ton, $23@23.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

CRACKED CORN—Choice quality, per ton, $33.50@34.50.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—New crop: No. 1 Shipping, per ctl., $1.43¾; choice, $1.46¼; White Milling, good to choice, $1.50@1.60.

BARLEY—New Crop: Choice, No. 1 Feed, $1.12½@1.16¼; Shipping, $1.17½@1.20; Brewing, No. 1, $1.20@1.25; Chevalier, $1.35@1.50.

CORN—Good to choice, per ctl.: California, new, large Yellow, $1.50@1.55; small do, $1.75@$1.80; White, $1.50@1.55.

RYE—Good to choice, per ctl., $1.22½@1,28¾.

OATS—Feed, good to choice, per ctl., $1.22½@$1.32½; White Milling, $1.32½@1.37½; ;Red, $1.20@1.32½; Black, nominal at $1.40@1.60.

BEANS AND SEEDS.

A moderately active demand for shipping purposes holds the market for Beans steady at quotations and general conditions are reported quite favorable to the selling interests. Small Whites and Limas are held well in hand at full figures. The receipts of new-crop stock are slowly increasing, but aggregate arrivals are still too small to depress prices for last season's yield. Seeds continue largely nominal.

BEANS—Prices per ctl.: Large Whites, $2.50@2.85;; small do, $3@3.15; Peas, $3.25@3.50; Lima, $3.40@3.50; Red, $2.90@3; Pink, $2.85@3; Bayo, $3@3.25; Blackeye, $2.50@2.75; Kidneys, nominal.

NEW CROP—Large Whites, $2.50@2.75; Blackeyes, $2.50@2.75; Red Kindneys, $3.75@4; Bayo, $2.90@3.10.

DRIED PEAS—Green, $1.80.

SEEDS—Prices per ctl: Yellow Mustard, $2.50@3; Trieste, $2.75@3.25; Canary, imported, $5.50; Hemp, $3.50; Flax, $1.75@2; Rape, $$1.75@2.50; Timothy, $5.75@6.50; Alfalfa, nominal.

Hops.

The price for new crop is 21@25c per lb, according to quality.

Wool.

The local Wool market is quiet, as scourers are unwilling to make large purchases pending the outcome of the strike of the scourers and handlers of wool. The Eastern Wool market is unusually quiet and this will tend toward prolonging the local labor troubles. At St. Louis prices are quoted: Medium grades, 16@21c; light fine 15@17½c; heavy fine, 12@14¼c; washed, 20@30c.

Eastern Markets.

Grain and Produce.

CHICAGO, Sept. 16.—Speculative interest centered in the corn pit today and trading was active. December closed with a net gain of 1¼@1⅜. Wheat opened with considerable activity on the sharp upturn in corn, with December ¼@⅜ to ½@⅝ higher at 82⅞ to 83⅛. But the news from the Northwest soon became more reassuring with foreign news rather tame and these influences, together with a sharp break in September at Minneapolis, caused the strength to desert the pit and December relaxed to 82¼c. Local traders followed the action of brokers supposed to be acting for Armour, who sold wheat generously. Trade was large and the late markets took on a better tone on a firmer tendency in the late cables and a recovery in the Northwest markets. December closed unchanged at 82@82⅝. Shorts in the corn pit made a concentrated rush to cover at the opening and the bidding continued vigorously until the price had gained 1½ cents on the closing quotations of last night. But at the advance, offerings from holders with profits became so free that they checked the upward movement, the selling being led by traders who took advantage of the slump yesterday and took on what proved to be cheap corn. The late market showed a divided sentiment, but there was little short selling. December closed strong at 52½@52⅝, a gain of 1¼@1⅜c, after ranging between 51⅛@51¾ and 52. The oats market was strong with light offerings. December closed ⅝@¾ cents higher at 38¾@38⅞. Provisions were strong with corn and higher hog prices.

Cash quotations were as follows: Flour was 20c higher; No. 2 red wheat, 80¾@82¾; No. 2 corn, 52½; No. 2 yellow, 54; No. 3 white, 37¾@39½; No. 2 rye, 57@58½; good feeding barley, 48@51; fair to choice malting, 53@59; No. 1 flax seed, 1.04; No. 1 northwestern, 1.09; prime timothy seed, 3.10; mess pork, per bbl., 13 60

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@13.65; lard, per 100 lbs., 9.35@9.37½; short ribs, sides (loose,) 8.75@9.00; dry salted shoulders (boxed), 6⅞@6¾; short clear sides (boxed), 8½@8¾; clover, contract grade, 9.75@10.00; nominal.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	34,105	6,300
Wheat, bushels	257,150	14,545
Corn, "	763,200	244,335
Oats, "	329,150	160,851
Rye, "	10,350	....
Barley, "	149,477	10,400

On the Produce Exchange today the butter market was steady; creamery, 15@20; dairy, 13@17½; eggs, firm at mark, 17@18; cheese, steady, 10@11¼.

Chicago Live Stock.

CHICAGO, Sept. 16.—Cattle—Receipts 20,000; western, 5000; market lower; good to prime steers, 5.40@6.00; poor to medium, 4.00@5.25; stockers and feeders, 2.50@4.15; cows, 1.50@4.50; heifers, 2.00@4.25; canners, 1.50@2.60; bulls, 2.00@4.50; calves, 3.50@7.00; Texas fed steers, 3.00@4.40; western steers, 3.25@4.75.

Hogs—Receipts today, 20,000; tomorrow, 20,000; market 5@10c higher; mixed and butchers, 5.60@6.35; good to choice heavy, 5.90@6.20; rough heavy, 5.50@5.85; light, 5.70@6.30; bulk of sales, 5.70@6.05.

Sheep—Receipts, 25,000; market steady to lower; good to choice wethers, 3.00@3.75; fair to choice mixed, 2.00@3.00; western sheep, 2.75@3.65; native lambs, 3.50@5.75; western lambs, 3.50@5.25.

California Dried Fruits.

CALIFORNIA DRIED FRUITS.

NEW YORK, Sept. 16.—The market for evaporated apples is quiet. The new fruit arriving is of ordinary quality and prices favor higher prices with quotations ranging from 5⅝ to 5½ for prime October-November delivery. Common, 4@5; prime, 5¼@5¾; choice, 6½, and fancy at 6½@8. Prunes in moderate demand and the general market shows little change, with prices still ranging from 3¼ to 7 for all grades. Apricots firm; choice quoted at 9¼@9½; extra choice at 9¾@10¼ and fancy 10½@12. Peaches are steady, with a quiet demand, choice quoted at 7¼@7¾ and extra choice 7¾@8¼.

CITRUS MARKETS

ORANGE AND LEMON MARKET.

Los Angeles, Sept. 17.

Orange Markets.—Conditions have improved somewhat during the past week in the auction markets, Wednesday's sales showing very satisfactory prices at nearly all points. The supply in sight and en route is small, and would seem to warrant equally satis factory results on sales in the near future.

Western markets continue to take fruit very slowly and with little change in the way of prices.

There is considerable complaint as to quality, much of the fruit going forward showing the effects of cold weather and is generally rough and poor color.

The lemon market has been in fair condition, especially for 300 sizes, in the northern markets, where the demand for Californias has exceeded the supply available. Shipments en route are very light, and anything in the shape of a desirable car is readily saleable. Fruit of poor quality and in bad condition is not wanted.

Californians would increase their profits and business by throwing away more of their worthless stock instead of sending it East to demoralize the markets.

The citrus fruit year is about closing, only 100 cars of Valencias remaining to be disposed of, with the usual average shipments of fall lemons. Locally the feeling in regard to the California Fruit Agency has become settled, and it is now conceded on all sides that the agency has become a permanent factor in the handling of almost the entire citrus fruit crop of this state. In the East the trade is equally pleased, excepting the firms that have been left out as brokers or commission merchants. The bona fide purchasers of fruit now feel that they will be protected in their ownership of the oranges and lemons bought from the agency, as the latter will control almost the entire crop.

A. H. Naftzger left for the East a few days ago on his annual tour of the leading market towns. His most important business is overlooking the general make-up of the agencies and making a general review of trade conditions. He will be gone about six weeks, during which time Mr. Naftzger will visit all the leading markets of the country. About the first of December the California Fruit Agency will occupy the upper floor of the Chamber of Commerce building on Broadway. It is stated that the entire floor will be taken by the agency, the Exchange, the Citrus Union, the Semi-Tropic Fruit Exchange and a number of members of the Union, such as the Earl Fruit Company, Fay, Spruance and others. When this move is consummated, the agency, with its constituents, will be housed more conveniently for the transaction of its immense business.

Citrus Fruit Shipments.—Shipments of citrus fruits from Southern California for the season from November 1, 1902, to date, are 21,955 carloads, of which number 2610 carloads are lemons.

Crop advices declare that in two weeks more the bulk of the corn crop will be out of danger of frost. While this is not going to be a year of large crops, still no serious deficiencies are to be expected, and a good demand at profitable prices is assured for nearly all agricultural products, the beneficial effect of which upon general business need not be enlarged upon.

Secretary Wilson says this country, this year, will produce 10,000,000 bushels of Maccaroni wheat as against 2,000,000 last year, and he predicts that next year's crop will reach 20,000,000. He is taking steps to ascertain where the surplus may in 1904 be marketed abroad.

The country never before saw such demand, and such growing demand for leguminous seeds for sowing—the clovers, alfalfa, the vetches, peas and cow peas, and soy beans and velvet beans. Numerous reports state that the farmers have just been awakened as from a long sleep, and that they are feeling their way with rotations in which a part is generally taken by a legume, and the awakening is often referred to as beginning at a farmers' institute.

'TWAS EVER THUS.

The rain it falls upon the just,
And, too, upon the unjust fellows;
But more upon the just because
The unjust have the just's umbrellas.
—Judge.

The American Poultry Association hold its next meeting at Rochester, N. Y., February 2.

SUMMONS.
No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.
(Seal) By C. O. Winters, Deputy Clerk.

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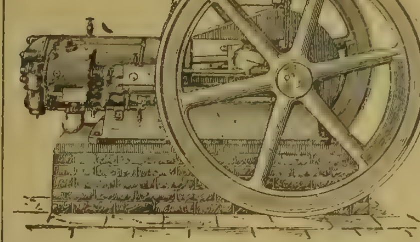
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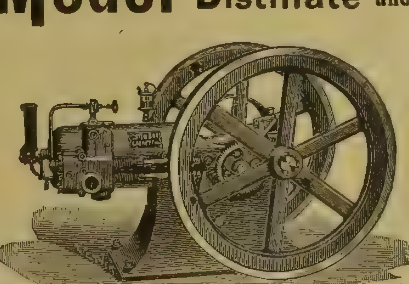
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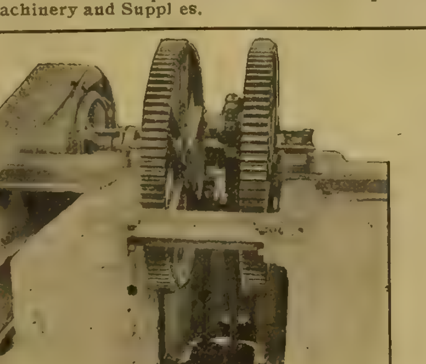
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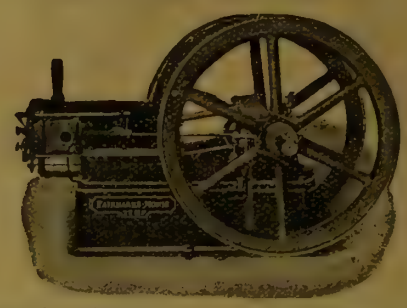

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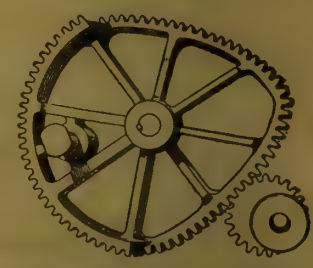

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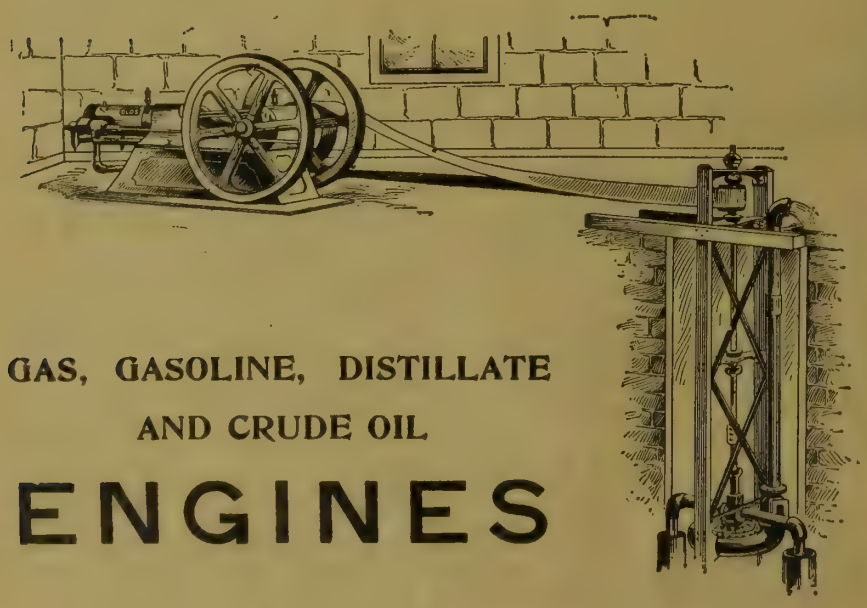

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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 13 LOS ANGELES, CAL., FRIDAY, SEPTEMBER 25, 1903 Subscription $1 a Year

The Orange Industry in California

BY J. W. MILLS, POMONA

The coming orange crop promises to be the heaviest that California will ever have produced. Last year's crop fell short of early estimates and even if the coming crop falls as far short of present estimates, we will still have a record breaker. During the past three years, nurserymen have been unable to supply planters with orange trees. We cannot gauge the coming increase in production entirely by the new acreage for a great deal of it is on land or in situations entirely unfit for growing oranges that will pass muster during a season of moderate prices and a weak demand. Nevertheless, this fruit will have a tendency to lower the price of oranges and will serve to bring about a reaction in planting more quickly. Early shipments from the northern citrus belt are already having an influence on prices when the market first goes up. Some shippers have told us that they began two years ago to take the edge off of the early market that the southern orange growers have enjoyed.

Navels and Seedlings.—The Washington Navel seems to hold the market during its season against the seedling fruit. The latter used to have a good market late in the season, but the superior quality or the Valencia seems to have supplanted it to considerable extent. The seedling does not seem to have a bright future with us and no doubt, a few more years will see the greater part of them budded over to Navels. The loss from this source will perhaps have no effect on the present supply for so many seedlings have been worked over during the past few years, that are just now coming into bearing. If the grower had no expenses except those of cultivation, irrigation and marketing. there might not be very many losses in orange growing, but the expenses incurred in fighting pests will perhaps always create considerable loss. All these things will have a tendency to restrict planting to a certain degree.

Budding Over Old Tress:-This operation is quite well understood at this time. There are certain points in the operation that are vital and a disregard for them will result in the loss of many fine trees. A large orange tree that has been beheaded and loses its new head the first year by frost or improper manipulation, will never be worth working afterwards. The practice of budding into large branches during the fall and early winter and allowing the buds to remain dormant is all wrong. The bark often overgrows the bud to such an extent as to smother it. The best success is obtained by budding in the spring after the first growth starts. All of the surplus branches not needed in forming the new top should be sawed off close and waxed over. This starts an unusual flow of sap into the remaining branches and healing of the bud is much more rapid. The cuts to receive the buds and insertion of the buds must be done quickly and wrapped at once with strips of cloth saturated with beeswax. These bands should be well disinfected with a weak solution of bluestone water and then rinsed in clean water and dried before using. This may not be necessary in most cases, but some seasons, great numbers of buds are lost by the growth of mould under and around the buds that are inserted. To be perfectly secure against this trouble, spraying the trees with Bordeaux mixture may be advisable. The bands should not be removed under one month if the spring is warm and the growth of the trees is rapid and vigorous. If the spring is cold and backward, failure will surely follow the removal of the bands under six weeks. If the trees are in a frosty location, the branches should be girdled about two inches above the buds as soon as the bands are removed. If there is but slight frost, the tops should be sawed off just an inch above the buds, the stumps painted with wax and the trunks of the trees whitewashed. In a short time the inserted buds and innumerable adventitious buds will appear. The latter should be rubbed off and when the sprouts which go to form the new top are about a foot long, they should be pinched at the ends to make the branch and harden the wood. When the top is left on and the branches girdled above the buds, the same conditions exist, except that the tops are removed in the following spring when the new growth starts. The retention of the tops over the buds acts as an umbrella and the young growth will not suffer from frost. Ordinarily removing the entire top at the time of taking off the bands and wrapping the young growth in the fall with palm leaves will give a better growth than girdling and leaving the top on the first year. The latter is the best way where extraordinary frosts occur.

* * *

Thinning and Propping.—Thinning has never been practiced on the orange, it being considered wasteful. Props that will hold up a crop that would break down a tree, have paid for themselves many times in the past in fruit. The orange, especially the Navel, grows large enough for the market even when the trees are loaded, so thinning has an objection there. Still it may be that much may be gained by thinning. Fruit that is disfigured or in places that are exposed to the ill effects or wind and hot sun might be removed at this time, thus saving the expense of handling and at the same time relieving the tree of the extra drain. We have often seen a large percent of fruit on some trees that showed a whitish appearance on one side when green and when ripe the rind of such oranges is always off color, thick and dry and goes either into culls or low grade fruit. If such fruit were cut off now, much loss would be avoided. There are certain blemishes that are visable on oranges now, that will disappear when the fruit matures. This class of fruit will often turn out to be perfect or nearly so; experience will teach growers what to leave and what not to leave. Fruit that has blemishes now should be observed from time to time to see what changes take place. Shipping tags with description of the different faults written in lead pencil and tied on a number of specimens of fruit will make the records of the observation reliable. There is no reason why "sure enough" culls should not be taken off now.

* * *

There are several methods of propping orange trees. Some growers use poles as a center piece from which to run ropes to branches that need propping. Our experience has been that such a principle is wrong, for the reason that it is difficult to decide where to tie to the branch. If the tie is made too far out, the branch will sometimes double up with weight of fruit. We have often seen branches swing sideways and split when tied in that way. With a board prop that rests on the ground with the limb in a crotch, the operator can judge in a moment where to place the prop. if wrong, he can adjust it in a seconds time. If the foot of the prop is placed so that the top points outward, it assumes the proper position and is not so apt to be displaced by the cultivator or any other thing in passing. It also allows the branches to sway in the wind without being displaced. There are several patent props on the market that do the work well. We dicededly prefer those that prop from the ground.

Improvement Of The Orange.—This may be accomplished chiefly in two ways, selection of variations of buds of the Navel orange and by fertilizers. The former can only be employed in future planting or in working over growing trees. Fertilization scientifically done is the only rational means of improving the products of groves that we now have. The results from the use of commercial fertilizers has more often than not, been very unsatisfactory, the results have not been up to expectations. Recent investigations by Mr. F. L. Palmer of Pomona have shown that all available knowledge on the subject of fertilizing the orange in California, is not so definite as it might be. The opinions of prominant growers are equally divided on some very important points. General results show however, that best results are obtained by applying complete fertilizers during the spring and summer. Nitrogenous fertilizers should never be applied during the winter time as it will have a tendency to lower the grade of fruit and start the growth of the trees at the wrong time of year. Reports would indicate that summer and early fall are the proper time to apply potash. Phosphoric acid should be applied so as to be available at the time that the nitrogenous fertilizers are used by the trees; it should therefore be applied early in the spring, say about February. It must be remembered that there are no strict rules for applying or using fertilizers, as it is a difficult problem at the best and no kinds of land can be treated alike with any certainty. One thing certain, green manuring crop will have to be grown if an ideal condition of the soil is to be secured. This is the life giving element of soil and fertilizers give better results when applied to soils rich in humus than when applied to those poor in it. At the present time, we do not know that there is

A WELL-TENDED ORANGE GROVE.

(Continued on Page 214.)

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
203 NEW HIGH STREET, LOS ANGELES, CAL
BY CULTIVATOR PUBLISHING CO.

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Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Sept. 25, 1903

Circulation this issue 8,700

EGG MEN IN BUSINESS FOR THEMSELVES.

The poultrymen of Sonoma county, who have had much experience with middle men, have shaken loose, and set up in business on their own account, endeavoring to entirely eliminate the go-between who got the cream of their labors and to reach the consumer direct, without his intervention. 'From the hen to the table" is their motto, and they seem to be making a success of their new movement. The fruit growers of the Sacramento river started out along these lines over a year ago, and after many troubles, trials and tribulations, succeeded in compelling the middlemen to leave them alone, and their labors have been eminently satisfactory to themselves. The egg men of Sonoma county are following in their footsteps and will achieve success with less trouble. They have established an agency in San Francisco where they are marketing their own products and are saving three cents a dozen by the operation, besides escaping many little unpleasantnesses to which they were subject under the commission system.

PANAMA CANAL TREATY DEAD.

Negotiations which have been pending with the Columbian congress for some months relative to the ratification of the Panama canal treaty have come to an end by expiration of time allowed by congress for the completion of the treaty.

It now rests with the President to proceed with the consideration of the Nicaragua route, or pass the matter over until the next congress meets in December. A report was current in Washington that the Colombian congress in secret session had clothed President Marroquin with full power to negotiate a treaty. If this should turn out to be true, President Marroquin, who is counted as a friend of the treaty, could proceed untrammeled by the fear of future reckoning with his congress. Again, if this should prove to be a fact, negotiations may be opened later on by an act of congress.

THE FIRST FRUIT INSPTCTOR APPOINTED.

The fruit growers of Watsonville have moved in the matter of having the law which requires packers to label their fruit with the name of the section in which it was grown, properly enforced. This is the law which was passed by the last legislature and to which we recently drew attention in these columns. It is evident that Watsonville has no intention of allowing other sections to get the credit for her choice products and to this end a petition was presented to Governor Pardee begging for the appointment of A. N. Judd as fruit inspector, under the new law. In accordance with the request, so preferred, Governor Pardee on Friday last, appointed Mr. Judd as fruit inspector for Santa Cruz and Monterey counties. This is the first appointment under this law and it will probably be followed by others, and what has heretofore been a great injustice to some sections of the state in giving to other sections the credit for the choice products will be stopped. Mr. Judd is a competent and fearless officer who will see that the law is properly enforced in his district.

THE RAISIN ASSOCIATION STILL ALIVE.

The raisin growers have worked their way through the Valley of Tribulation and entered the field full armed for another season's campaign. The raisin men are to be congratulated on their good sense in hanging together for their own interest, although for some time it seemed as though they were determined to fight each other and sell their crops for hog feed. There is now 91 per cent. of the raisin crop of the state represented in the association, and it is in a position to fix prices, which it has done at a material advance on those heretofore prevailing. There is an estimated raisin acreage in the state of 64,000, of which 58,239 acres have been assigned to the association. It was a surprise, and shows some skillful engineering on the part of the management, when the Woodland Sultana Raisin Growers' Ass'n. cast its lot with the Fresno people. This body absolutely declined to sign up with the Fresno combine, but after two unsuccessful attempts to reach an agreement with the management at Fresno, some concessions were made which brought the Woodland people into line. Prices have been fixed for the new crop as follows: Two-crown loose muscatels, 6¼ cents; three-crown loose muscatels, 6½ cents; four-crown loose muscatels, 7 cents. This is the highest in the history of Fresno. These are pretty steep prices in comparison with what have been paid for raisins in the past few years, and will probably be shaved considerably before the crop is marketed.

E. J. Norcross in the Exeter Sun gives the figures for planting a seven acre orange orchard. Of course the cost of an orchard depends a great deal on what is paid for land, it ranging in price from $40 to $100 per acre, depending on whether water is developed or not. For the orchard cited water was purchased from an adjoining tract. The following are the figures as furnished us:

Cost of seven acres of land	$280
Trees at 85 cents each	600
Leveling land	75
Planting at 5c per tree	35
Water	80
Total	$1070

This does not include the labor expended upon cultivating and irrigating which can easily be done by the owner with but little expense. The cost during the subsequent years will be only the cost of water and taxes.

Milk inspectors should be doing more than earning their per diem now days. They should thoroughly inspect all the milk sold in every city and town where they work and when they find a dishonest vender arrest him and see that he is vigorously prosecuted. More sickness and death come from impure milk than almost any other cause. Pure milk is health, impure milk death.

Jars make excellent packages for the farmer to pack his butter in. Where he is supplying a regular trade he should employ jars of a uniform size.

THE APPLE INDUSTRY.

The Apple Growers' Association of Los Angeles county is engaged in a most important work—the work of advancing the interests of the apple industry in this county and incidentally, promoting the general welfare of the industry throughout Southern California.

For many years the idea obtained that good apples could not be produced in this part of the state. It was urged that the climatic conditions are against the development of this fruit in this locality.

Of course, Central and Northern California have always produced a fine variety of apples and the efforts of the Apple Growers' Association of this county is being directed to ascertaining the necessary conditions which will make apple growing profitable as it is in other sections of the state. It has been demonstrated by intelligent growers like Mr. Wilson of Long Beach that certain varieties of apples may be grown in this part of the state as satisfactorily as they are at Watsonville. Somewhat more attention is necessarily given the trees but the results of the last two years have shown that good money may be made from orchards well taken care of. If apples are well preserved they will sell well.

The meeting of the Association for this county, on Saturday last, brought out considerable well-merited discussion on the best methods of maturing and preserving the crop. Frederick Maskew, gave as a reason why trees have not borne regularly that they have been damaged in picking, the pickers have broken the limbs and otherwise damaged the tender sprouts. with the result that the succeeding years' crop has been materially lessened.

It developed in the discussion that this county does not appear to furnish two-fifths of the apples consumed in this market. In the first place proper care has not been excercised in picking and preserving the fruit, and in the second place orchardists have allowed themselves to be imposed upon by dealers who insist on labeling the best fruit raised in the county as from northern points where popular varieties abound. Against this discrimination the Association emphatically objects, and insists that Los Angeles county apples shall be sold on merit and that proper credit shall be given growers who produce fruit of equal value with the growers in other sections of the state.

Discussion on spotted apples brought out the point that the shot-hole fungus is the cause of this disorder to the apples. The fungus grows in the bark of the trees and in summer develops, spotting the fruit much as the canker does in the East.

Horticultural Commissioner Jeffrey called attention to the fact that George Compere had found an effective parasite for the codling moth. This information was received with much satisfaction by the members of the Association for as has been stated in a recent publication:

"This moth is the most destructive fruit pest upon the face of the earth, and is found universally where the apple is cultivated. Governmental statistics show that from one-fourth to one-half of the apple crop of the United States is totally destroyed, or materially injured by this pest."

It is certainly to be hoped that Mr. Compere has really discovered the parasite that will destroy the codlin moth, which not only causes an immeasurable monetary loss to apple growers but attacks with almost as fatal results pears, from the ravages of which the growers of this most choice fruit have almost wholly abandoned its culture.

If property owners would cut the weeds around their orchards there would be less black scale. This idea the Cultivator has so often urged. The Corona Courier reports Horticultural Commisioner Curtis as saying that the black scale is found in the largest quantities on the "deadly nightshade" weed, which grows around in lots of orchards, and not only does the scale confine itself to the leaves and stalk of the weed, but penetrates down into the ground and is found on the roots. He says that where the weeds are thick so is the black scale prominent.

FRUITS AND REFRIGERATION.

Fruit growers will be greatly interested in the test to be given cold storage of fruits at the World's Fair, at St. Louis in 1904. A completely equipped mammoth cold storage warehouse and refrigeration plant will be in operation on the grounds and all tests will be of the most practical character. It is asserted by those interested in this experiment that fruit shipped from the most distant parts of the country will be preserved in all its beauty of colors, its texture and flavor. The strawberry grower of California will be able to present his exhibit on the tables in the exposition in perfect condition.

The apple and pear raiser will ship his products to the storage plant this fall and next summer show them in as good condition as if gathered within a few days of their exhibition. It is wonderful what advancement has been made in mechanical refrigeration in the past few years. Cold storage has revolutionized the apple industry, solving the problem of the over-stocked market, preserving to the orchardist a demand for his fruit which otherwise he would have lost. A bulletin issued by the Department of Horticulture for the World's Fair gives the information that the officers appointed to look after this branch of the Fair, are planning to assist the Commissioners of the various states in storing their products for exhibition in 1904.

The Exposition management, appreciating the importance of the cold storage industry, has established the Bureau of Refrigerating Building, 320 by 210 feet, with a model cold storage warehouse of more than 300,000 cubic feet capacity.

As the Exposition will positively open on April 30, 1904, and the space in the Palace of Horticulture assigned to each state must at all times be covered with fresh fruits, the months of May and June next year will necessarily witness the display of apples kept in cold storage. As it has been demonstrated that apples may be kept perfectly in cold storage for two years it is reasonable to assume that during the first two months of the World's Fair, and longer if need be, perfect specimens of fruit will be daily exhibited.

MAYNARD PLUM CATALOGUE.

One of the most successful of experiments of that wizard of horticulture, Luther Burbank, has been the production of the Maynard plum. This plum is so large as to attract attention anywhere and of a color which will attract attention and command for it the highest market price.

Regarding the plum the catalogue recently issued by the Oregon Nursery Co., of Salem, Oregon, says:

In size it is very large, often measuring seven and one-half inches in circumference. Form nearly round, slightly flattened at the ends, of richest, crimson purple, deepening to royal damask as full ripeness is reached. Tree hardy, vigorous and compact grower. Leaves dark glossy green. Bears immense crops of even sized fruit while very young. Never fails.

THE RANCHER MUST DECIDE.

There appears to be no cessation of interest in the discussion among orchardists as to the respective merits of spraying and fumigating. At several institutes held this fall the concensus of opinion was in favor of spraying—if properly done. Positive expressions were given that it is not only safe and effective, but so vastly less expensive as to render it much more desirable than fumigating. At Covina, however, recently the Orange Growers' Association passed resolutions to the effect that fruit sprayed shall hereafter be rated by itself as they consider sprayed fruit injurious to the grade.

In opposition to this theory the manager of the Charter Oak Association states that 90 per cent of the fruit which passed through his house last season was sprayed, that no injurious results were noticeable, that fruit treated with spray did not require washing and that the members of the Charter Oak Association received a higher average price for their oranges than any other association in the district. That fruit is damaged by spraying no experienced orchardist denies, and the same can be said of the orchards which have been carelessly

treated by the fumigator. It seems certain, however, that orchardists should exercise the greatest care in their selection of both sprayers and fumigators. Under no circumstances should an inexperienced or careless person be allowed to go into an orchard for the purpose of treating it by either method. And another thing, no orchardist should pay for the work done on his trees until the Horticultural Commission inspects the work of the cleaner and ascertains if the scale has been thoroughly eradicated. By adopting this plan much damage will be avoided and good clean work will be done on all the orchards. The honest sprayer and the honest fumigator ought not to be dissatisfied with a contract which makes his work dependent on the judgment of men of experience and knowledge both of which the Horticultural Commissioners in the various counties of the state ought to possess.

CROP CONDITIONS.

The Weather Bureau reports the following conditions as existing in California during the week ending September 21:

The temperature was nearly normal and the weather generally clear in the interior during the week. Fogs prevailed in the coast districts. Light frosts occurred in some sections. Conditions favored fruit drying and raisin making, now in progress in all parts of the state. The first crop of raisin grapes is nearly all gathered and on the trays, and the second crop will soon be harvested; both crops are reported heavy in most sections and of excellent quality. Wine grapes are going to wineries in large quantities and heavy shipments of Tokays and other table grapes continue. Prune picking and drying are in progress and nearly completed in some districts; the fruit is of excellent quality, but the yield is slightly below average. Other varieties of deciduous fruits have yielded heavily and are nearly all secured large shipments of dried fruits are being made. Citrus fruits are in good condition in all sections, and oranges in the Oroville district have commenced ripening. Apples are ripe and yielding a good crop.

Hop picking is completed and baling is in progress the crop is about average and the quality good. Beans, corn, and sugar beets are being harvested and yielding very satisfactory crops. The heavy grain crop in Southern California is rapidly going to warehouses or being shipped. The hay crop is all secured.

Prof. E. J. Wickson, in the Pacific Rural Press, speaking of the institute work in Southern California, says:

"Under the exceedingly satisfactory promotion of Prof. A. J. Cook, institute conductor for that part of the state, institute work has been carried on in increased measure during the last two years and has commanded increased popular approval. The organization of local farmers' clubs has focused interest and given opportunity for continuous effort for social and industrious advancement, while the annual Farmers' Club Institute, attended by delegations from local clubs and by the agricultural public generally, has proved to be a strong influence toward the enactment of several measures of wide value to the state."

News comes from England that the fruit crops on the continent are a failure. Foreign fruit is in great demand and shipments of bananas, pears, plums and grapes are very heavy. Prices have gone skyward, reaching from 50 to 100 per cent above the prices of last year. A good deal of hardship is also being felt by those who in former years, have found employment in picking and preserving the fruit crops of the country.

The oil industry in California which has been somewhat slack of late, is looking up, accordinfg to the Santa Paula Chronicle, because there is an increased demand for the product. Better transportation facilities, road improvement, refinery use and railroad equipment are creating a demand for oil, in all its forms, which is causing the price to look up.

Hot water and brushes are needed to clean the dairy separator properly. and they should be vigorously used.

Coast News and Notes

By R. A. Dague, 1130 Eddy St., San Francisco

Recently a meteor weighing a ton fell near Grant's Pass, Oregon.

San Rafael is arranging to hold a chrysanthemum fair in November.

Pomona Fruit Exchange shipped 406 cars of fruit and realized for the growers $110,000 this season.

California fruits are bringing good prices in the East. We are dominating the markets 3000 miles distant.

There is a probability that San Francisco will be chosen as the place for the next international yacht races.

California has 298,898 acres planted to alfalfa. In point of alfalfa acreage we are the second state in the Union.

The grape crop in Central California is coming on so rapidly that the carrying capacity of the railroads is seriously taxed.

Butter, eggs, flour, canned goods, meat and some other necessities have advanced in price in San Francisco the past ten days.

The United States Department of Agriculture is about to establish an experimental station at Ventura for the culture of flowers.

Bean cutting has commenced in Ventura county. The hot summer injured the crop—the damage being about 25 per cent. The output of limas will be about 100,000 sacks less than last year.

Lodi Sentinel: Outside buyers are offering better prices for wine grapes than the wineries, the report stating that $15 would be paid, and there is a possibility of the price going even higher than that.

Near Emigrant Gap black-leg is devastating the ranges. W. J. Sanford, a cattleman there has lost twenty-four head within a few days. Early vaccination is the only preventative of this destructive disease.

A great war of opposition to vaccination has broken out at San Diego. The anti-vaccinationists threaten to keep their children out of school and hire special teachers for them if vaccination is insisted upon.

Yuba City Farmer: The executive committee of the Sutter and Yuba Wool Growers' Asociation has decided to hold the fall wool sale this year from the Garrett Co's warehouse in Marysville on Saturday. Oct. 10.

A. C. Noe of Eureka and A. T. Crane of Santa Rosa have purchased the 3000 acre dairy ranch of Warboys & Reynolds. This land is situated near the mouths of the Sacramento and San Joaquin rivers and is composed of rich sediment from these two streams.

The Santa Clara County Fish and Game Protective Association's proposition to establish a thirty-acre deer park at Alum Rock is warmly indorsed by the park commissioners, and it is now an assured fact that the paddock will be built at an early day.

In Yolo half of the prune crop was shaken from the trees by a strong northwest wind which prevailed on the 11th inst. Raisins in process of drying were damaged slightly from dust, necessitating dipping. Many fruit and shade trees were blown down.

The beet sugar factory at Salinas has commenced operations. The run will last about 75 days. The tonnage will be only about one-third that of last year owing to the refusal of farmers in Pajaro Valley, Hollister and San Juan to raise beets at the prices offered.

There are about 90,000 sheep in Sacramento county. J. H. Glide is the largest individual owner. He brought most of the sires came from France. Forty-five came from Mexico. Mr. Glide says the great draw-back to the sheep industry in this State is scab. It is worse here than elsewhere.

The cannery at Visalia is busy at present.

The grape and almond harvest is in full blast in Sutter county.

The cattle disease still rages in Tuolumne and Calaveras counties and many cattle have died.

Barley is a good commodity to have just now. The price is tending upward as the demand increases.

The fruit growers in Humboldt county have lately organized. The county expects an output of 50,000 boxes of apples this season.

At Escondido the vineyardists and orchardists are greatly troubled over the multiplication of quails. They are doing a good deal of damage.

The Dr. Glenn estate, near Colusa, consisting of 100,000 acres, once noted as the largest wheat field in the world is being subdivided into 20 and 40 acre tracts and will be sold at from $40 to $65 per acre.

The assorting process of apples at the packing houses shows that fruit is very free from worms this season. Systematic summer spraying is responsible for such condition. —Pajaronian.

The quality of Pajaro apples this season will be first-class, but the size of the fruit will be hardly as large as that of last season. This is largely due perhaps to the lack of late spring rains and the prevailing dry summer which followed.

The Pomotropic says: A great diversity of opinion prevails in regard to the advisability of spraying and fumigating. This year in this section the popular method seems to be spraying and a number of outfits are being operated in the various orchards.

A few years ago California grape vines were planted in Smyrna by the Turks. Later the native vine was grafted into them. The result was an increased yield of fruit and a decrease of phylloxera. U. S. Consul R. W. Lane now estimates the coming crop of Sultanas at Smyrna at 49,000 tons.

The Santa Rosa Republican says: Earth worms are very humble, but earnest friends of the farmer; as fertilizers of the soil they are invaluable, continually turning over and loosening the earth, improving its mechanical condition and making it easy for the seeds to take root, and for the rain and moisture to penetrate.

The worst forest fire of the year is raging west of Grass Valley and has swept over miles of densely wooded country between Smartsville and Spencerville. In addition to heavy loss from valuable timber being destroyed, much pasturage and fences have been wiped out. In some cases cattlemen had hard work to save their herds, being compelled to drive them out of the burning zone to safety.

Pajaronian—Prof. W. T. Clarke says that the further he investigates the cause of the burning and dropping of leaves from apple trees in Pajaro Valley the more he becomes convinced that it is not altogether due to spraying with Paris green. Trees which have not been sprayed at all are in many cases similarly affected. The professor will investigate this question thoroughly.

Kern county has long been noted for its beef cattle. Dairying is becoming a most important industry, due in no little degree to the success with which alfalfa is grown. Here is what a report from Kern county says:

"This is ideal country for alfalfa, which yields six to eight crops a year, and which will grow continuously, without reseeding for fifteen years. It will maintain two cows to the acre. The climate is so mild that cattle can be kept out of doors all the time, and by breeding at the right season can be made to give plenty of milk at the time of year when butter is the highest."

A show of fat stock in San Francisco this winter is being talked up.

H. O. Woodworth, a graduate of Cornell University has been appointed foreman of the state poultry farm at Petaluma.

Bouldin Island near Stockton, contrains in one bed 3000 acres of asparagus. The crop annually makes about 325 carloads, valued at $600,000.

About 100,000 rainbow and brook trout were recently received by the California Fish Commission with which to stock the stream of Marin and Sonoma counties.

Managers of the California State Fair Live Stock Department are highly pleased at the creditable showing the dairy interest made. Next year they hope to se this interest materially increased.

The J. Steton Creamery is greatly extending its business. It now has a gasoline launch which runs as far down as Dutton's Island, three times a week. It carries about 40 gallons of milk each trip.

C. H. McGurk and D. S. Rosenbaum of Stockton, make a specialty of supplying the San Francisco market with fat cattle. They say there is plenty of stock cattle in the state, but good beef is scarce.

Walter Hine of Philadelphia was offered $60,000 for Lou Dillon, the famous Santa Rosa mare, that trots a mile in two minutes. C. K. Y. Billings her owner at this writing has not yet consented to sell the animal at the price offered.

Lawrence & Parkhurst are arranging to establish a tannery plant at Petaluma. They promise to turn out 400 sides of fine leather per week.

Fire last week destroyed Ellsworth Drying House at Niles. Fruit to the value of $10,000 and machinery valued at $5000 were consumed.

The directors of the California Grain Growers' Association held a meeting at Sacramento the 11th inst. President Pierce stated that members of the association are now receiving from $8 to $10 per ton more for grain than they had ever got before the association was organized.

The jute mill of the San Quentin prison is now turning out an average of 18,500 grain bags per day. There are about 800 convicts employed in the mill and they work eight hours per day. Sundays and holidays excepted. The increase in the output of bags for the past four years is about 3,000,000 more than any previous four years.

Prof. Hussman in charge of the Viticultural investigations for the United States last week made investigations with soil, climate, etc., in the vicinity of Stockton, with a view of locating an experimental government vineyard there. With him was Government Pathologist P. H. Doesett who is seeking a location for the establishment of a plant industry experimental station.

Experts from the Agricultural Department have for some time been making experiments in Fresno county, to reclaim the soil from alkali. A drainage district forty miles square is being formed, improvements to cost $260,000. The alkali salts were brought to the surface by copious irrigating. The tract experimented on was underlaid with tiles and then flooded so as to wash the alkali through the soil and thus drain it off.

Approximately half a million dollars worth of property was destroyed in the fire, says the Fruit Grower, which consumed one of the Southern Pacific Company's receiving sheds in San Francisco last week, together with 66 freight cars and their contents. It is known roughly that the shed that was entirely destroyed contained 60 bales of wool, 200 barrels of wine, 25 bales of hops, 790 cases of dried fruit, 300 cases of canned goods and five tons of miscellaneous frieght. The sixty-six cars that were burned contained for the most part hay, barley, wool, wine, dried fruit, canned goods, hops and other California products that had been delivered at the receiving shed during the day for shipment to eastern points.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

In a brief review I wish to mention the groups already gone over in reference to economy. The class Crustacea are neither harmful nor beneficial except that many like lobsters and shrimps are used for food. One order of the class Myriapod, the millipeds are all plant eaters, while the other order, centipeds are insectiverous and so are our friends. In the Cultivator of two weeks ago, the class Arachnida, or the spider class were referred to as exclusive friends. Had this been the order Spiders it would have been correct, but the class includes the order of mites and ticks, which, it will be remembered, are very serious enemies. They prey upon plants, upon culinary products and seriously worry our domestic animals while the ticks bear the germs of Texas fevers. We are now discussing the class Hexapoda or insects. We noted that the order Neuroptera or lace wings were all our friends except the one family, the white ants. In marked contrast to this is the order Orthoptera, all of which are injurious if we except the family, preying mantis. It will be remembered that the front wing of this order is very different from the hind wings, while in the lace wing order all four wings are much the same.

We still have to discuss in this order Orthoptera, the terribly destructive locusts, the less numerous katydids and the well-known crickets. All of these are to be numbered among the pests and all would be very destructive were they numerous. As is well-known, the locusts often come in overwhelming numbers and so are perhaps to be regarded as more pernicious than any other family of insects.

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FAMILY ACRIDIDAE—The locusts or short horned grasshoppers are all placed in one family, Acididae. They are usually gray or brown and rarely green. They have long antennae, strong wings and mouthparts well fitted for biting. They often come upon the farmer in such devastating numbers that they have been regarded from the immemorable as one of the greatest of scourges. No country or clime is exempt from their ravages. We all remember the numerous immigrations of the Rocky Mountain locusts upon the States of the Middle West, where they rank with the chinch bug in the alarming damage, which comes from their invasions. Their color and short thick antennae will always serve to quickly identify them. Their food is very promiscuous and they are dreaded alike by orchardist gardener and general farmer. As they are biting insects they of course can be poisoned by Paris green, etc. Mixing bran, sugar and arsenic is often resorted to in battling these insects. The sugar and the bran attracts them, while the poison results in their taking off. A sort of huge, scraper like machine called Hopper-dozer is much used in Kansas, Nebraska, and Minnesota to collect and destroy the young, newly hatched locusts. It is drawn by horses and as the insects take wing they are crowded into a sort of hopper, which contains kerosene oil or crude petroleum, and thus they are destroyed in wagon loads.

FAMILY LOCUSTIDAE—The katydids are almost always green. They have very long threadlike antennae. They are best known by their song which is famous in rhyme and story. One poet speaks of "rasping the quiet of the night." The three syllables of the song give them their common name. The males produce the song as a love note to attract their mates. Many of them make a noise quite different. It is a long whirr and resembles not a little the rattle snake's rattle as also the song of the Cicada. The eggs of the katydid are quite large, are placed in two rows and overlap like the shingles of a roof. They quite resemble in form and appearance scale insects. I have often received them from orchardists, asking me what new scale had come upon them. The winged katydids are rarely numerous enough to seriously injure the husbandman. We have one here, which burrows in the ground and is known as the Jerusalem cricket or sand cricket. As it is a katydid of course it is no cricket at all. It sometimes burrows in potatoes and other tubers or bulbs and so does some damage though hardly enough to cause any unrest.

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FAMILY GRYLLIDAE—The crickets have the long slim threadlike antennae of the katydid, but their thick wing covers bend down at the edge and their prominent ovipositor is in form of a bayonet rather than blade like. This latter form is that of the katydids The crickets are rarely very injurious, as they are not very common. The mole cricket of the East has the habits of the so-called sand cricket of California The beautiful white cricket often does considerable damage in laying its eggs, which are placed in cuts made in the branches of shrubs and trees. Thus we see that the eggs of these insects may be placed on trees, though locusts and most all crickets lay their eggs in the ground. The chirp of the cricket is as much a theme for the poet as is the song of the katydid

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CLUB PICNICS.

The increasingly large and the increasingly interesting annual picnics of the Pomona and Claremont clubs prove conclusively that the picnic may be made an important adjunct in helping the clubs to a more gratifying success. The meeting at the Experiment Station of the 14th was noteworthy in the large number of eminent speakers. Mrs. Sherman's paper on the flower garden like all of her presentations chained the attention of all present. Few people men or women accomplish what Mrs. Sherman does yet she has time to attend clubs, to make her home beautifully attractive and in addition, to keep fully abreast the times in all that pertains to her study and work. I suggest that all of our clubs make more use of this picnic idea in the conduct of their meetings.

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CARPET (BUFFOLO) BEETLES.

Mr. Aeneas McAndrew, Carpinteria, like a good many others in Southern California, is troubled with the carpet beetle. We found one of these in our own house the other day. The mischief is done by the grubs, which of course have six legs, are brownish in color, and thickly set with quite long hairs. The beetles are very small and nearly as broad as long. Mr. McA. says they are quite troublesome in the Ojai Valley. His house was built only one year ago with pine lumber. He asks if the insects can come from the lumber. They never do. They come in from the flowers out doors. He asks if in purchasing bisulphide of carbon, it is necessay to secure any special strength. Unless the bisulphide is adulterated, and I have never known of such a case, it is all right as purchased. I think a half teacupful of bisulphide would be enough for a room 12x14x9. I should, however, not use it in this way. In case of carpets and rugs I should take them up and give them a good beating, expecting thus to rid them of the pest. Clothing should be put into a close barrel or box, as I have often recommended. Then it will require much less of the liquid. An excess of the bisulphide will do no harm except adding to the expense. In case of upholstered furniture, it should be put in as close as room as possible and saturated with the liquid. In case it is thought best to use it in a room, it is only necessary to throw it in as it will very soon volatilize and do its deadly work.

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GREEN MANURING.

Subscriber, Watsonville, wishes to know the most improved practice of fertilizing by means of legumes now in vogue in Southern California. As yet, I think, a very vigorous variety of peas is considered the best. They do not root as deeply as lupins, but we can always obtain the seed and they can be used for market or feeding if desired. They should be planted quite early. I think never later than September to always be sure of securing the best results. This often requires irrigation for the first few weeks. Some prefer broadcasting, while others plant in drills. In either case, if irrigation is required the furrows should be left at time of planting. They should be plowed under as early as February. If the season is cold and backward, they will not have attained their full growth by February if planted later than September. I have for the past ten years been recommending Canadian field peas because of their extreme vigor and prolificness.

* * *

SPOTTED FRUIT.

At the Upland Institute, as, also at the Experimental Station Picnic, much spotted fruit was exhibited. Much of this had been neither sprayed nor fumigated. It is said to be quite common in the orchard. The injury seems to be too deep for thrips, but I think results from some insect injury. I think our orchardists are observing their orchards, as never before and thus are observing such blemishes though they may be no more common than in previous years. It is to be hoped that much of the fruit will recover and that the balance will be too small in amount to appreciably affect the profits.

The resolution passed by the Covina Fruit Association, as also reports of some spotting by improper spraying, is causing some talk and uneasiness among our fruit growers. It has been proved beyond question that careful spraying, wisely done, with good distillate will not damage the fruit for market. With so many sprayers in the field, many of them without experience, and presumably not over cautious, these will undoubtedly be poor work done. I would as soon think of sending for a doctor of whom I knew nothing in case of sickness as to employ sprayers, who were not experienced and who had not won a reputation by good work. In any such particular work, the eye of the owner should always be upon it. I have repeatedly urged that the orchardist himself should be one of the spraying party, and were it my orchard, I should want to handle one of the nozzles. I expressed this idea at the San Dimas Institute whereupon several present said that they had rather trust to a contractor of good repute than to do it themselves. Mr. Corliss once said to that in all his spraying, either he or his boy must be present to supervise and see that it is properly done. Where so much is involved, we cannot be too cautious.

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THE DAIRY AND ORCHARD.

It will be remembered that the Cultivator has agitated, not a little, in the past two or three years, the keeping of a dairy in connection with the orchard. It has been urged that the dairy would pay in itself and besides would furnish a very valuable fertilizer. There is no question, but that humus is one of the most important things to add to our soils to render them productive. Stable fertilizer and green manuring are the two ways of adding humus to our soil. The value of stable fertilizer is greatly increased in case nutritious food is fed and also depends largely upon the way it is handled. If the orchardist manufactures it himself he knows the method and can secure an excellent article. It will be remembered that Mr. Leffingwell of Whittier, has acted upon this suggestion and is more than pleased with the result. He speaks with almost as much enthusiasm of his Jersey dairy as he does of his splendid lemon grove.

I was much gratified last week at the Upland Institute to find that two or three gentlemen there were following in this same trend. One orchardist who has a dairy of several cows told me that his dairy, though he bought all the feed, paid fairly well, aside from the manure. I am glad these experiments are being tried. I cannot see how they can fail to furnish one of the most economical ways of fertilizing the orchard.

* * *

I was asked at this institute if there was any crop that could be grown in the orchard that would add to its fertility or at least that would not impoverish it and at the same time would furnish wholesome food for the dairy cattle. I answered that peas in connection with oats would furnish a balanced ration and by putting them into the silo we could secure a succulent food, which Mrs. Sherman says adds one-third to the butter products. After cutting the peas and oats for silage we still would have a large amount of root growth, which would add not a little to the fertility of the orchard. Mrs. Sherman suggested further that all weeds and green stuff about the roads be cut and put into the silo. She said this was relished greatly by the cattle and added not a little to the profit. Is it not more than possible that with an orchard of from five to eight acres, and a dairy with as many first-class cows, any person might have a property that would give him immense satisfaction and a generous livelihood. An orchard and dairy of this size would not need to be burdensome and at the same time would combine the best economy with maximum profits.

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POLLINATION.

The lectures of Prof. C. F. Baker at the late institutes on pollination and circulation of sap were greatly appreciated. Prof. Baker has the happy faculty of being able to make science perfectly clear to all and at the same time captivating the attention of all hearers. He proved conclusively the importance of mixing varieties in planting all kinds of fruit. Cross fertilization is absolutely necessary in many cases. To secure this the varieties must not only be different, but must blossom at the same time and there must also be abundance of bees in close proximity to the orchard. It was also very helpful to all present to understand the exact method of sap circulation. These lectures will certainly help all who heard them to better methods of orchard culture.

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INSTITUTES.

The last two of the September Institutes, San Dimas and Upland, were no whit behind the others in attendance and interest. In attendance, decoration of hall and music the Upland institute stood well to the front. It was very delightful to note the great throng and the continued interest of all present at the Upland Institute. It was gratifying to observe the loyalty of those present at both these institutes to the Southern California Fruit Exchange. These sections stand well at the head in the excellent care, which they give to their orchards as well as the excellent fruit which they send to the markets. The people have generally been in the exchange and if we may judge from the enthusiasm shown at every reference to this organization, we may well believe that those who have remained outside are now regretful.

The fruit growers of Santa Clara county anticipate considerable trouble over the enforcement of the bill passed by the last Legislature, which requires that all packed fruit must bear a label, showing where it was grown and packed. The packers insist that they cannot take fruit from different sections and make separate labels. Complaints have been sent to the Governor from Pajaro Valley that packers are violating the law. The law provides for a fine of from $200 to $500 for its violation. Governor Pardee has appointed A. N. Judd of Watsonville inspector and instructed him to investigate the matter.

California Horticulturally

JOHN ISAAC, SACRAMENTO

DIABROTICA AND LADY BUGS.

It is a little surprising, in view of all that has been written and said about the lady bug family and its beneficial work, to find how many farmers and fruit growers there are who are totally ignorant of both. We frequently meet people who recognize but one thing as a lady-bug, and that one the Diabrotica, which is not a lady-bug and does not look like or act like one. A few days since we were assured by a fruit grower in one of the northern counties who ought to have known better, that a very great mistake had been made in importing the lady-bug into California, for it had developed into one of the most destructive of our pests. Askin for a descriptionof this lady-bug we were told that it was a little green bug, with black stripes and that it destroyed the blossoms of cucumber, melon and squash vines. Now, in spite of all that has been published about these pests the narrator did not know a Diabrotica from a lady-bug when he saw it, but having heard of the importation of the Vedalia cardinalis, all insects became lady-bugs, and imported ones at that, to him. There is no resemblance between the diabrotica and the lady-bug. The former is a long rakish looking fellow, with a yellowish-green black, he has a distinct neck with long antennae, or feelers. The lady-bugs are nearly hemispherical, their heads so close to their body that no neck is visible and the feelers are so short that it requires close inspection to notice them at all. The Diabrotica are pests in every stage of their existance and should be destroyed on sight, while the lady bugs are always beneficial and should always be preserved. It is unfortunate that our friends and enemies should be thus confounded, as the former often falls victims for the deeds of the latter.

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CULTIVATING TOWN LOTS.

It would be a good thing if there were some man in every town and valley who would make a business of planting small garden patches and vacant lots, and for him to let it be known that he was prepared for that work. An eyesore in nearly every town in this state are the number of bare uncultivated patches one sees left, summer after summer, and the objection to cultivating them is the difficulty of finding anyone to plant and prepare them. The owner of a quarter of an acre patch cannot afford to keep a team and plow to put it in shape, and often has neither the time nor inclination to look up some one to do it, while if it were known that some one was within reach who would do that class of work he would willingly pay out a few dollars to have it put in shape, and the man who would do it could make better pay than he could on a larger job. Here is a hint for some enterprising man in each town, let him put a small ad in the local paper that he is prepared to plant small patches at reasonable rates and he will get all the work he wants.

* * *

WORK FOR THE SPRAY PUMP.

Every orchardist, every farmer and every person who keeps stock or poultry should have a spray pump. The man who has fruit trees, especially, no matter how small the number, should be prepared to protect them from the attacks of insect pests and fungus diseases. There is no excuse for not caring for them. Sometimes the owner does not value the product of a few trees, and on this account will neglect them, and leave them to become a breeding ground for pests to affect his more careful neighbor. It is these small, neglected orchards that are a detriment in a fruit growing section. Not being profitable they are neglected, and the owners, having other business, or being absent, do not consider them worthy of attention, and they are left to infect the whole section, in spite of the best efforts of the careful grower. Orchards that are not valued should be uprooted; and trees that are left should be sprayed and kept clean. Now is the time that those who have not already got spraying outfits should get them. Winter will soon be with us again, deciduous trees will be dormant, and the pruning season will soon follow. Then the spray pump should be brought into active service. The advantages of winter spraying are many. The trees being denuded of their foliage are more easily reached in every part. The spraying compounds can be used of much greater strength than at any other time, and strong compounds can then be used that would seriously injure the tree when they are out in leaf, and preventive remedies are always more effective than curative. For curl leaf, of the peach, shot-hole fungus, aple scab and other fungus diseases, the work to be effective must be preventive, for if not done before the disease manifests itself, it becomes almost useless, a waste of time and materials. The best work against the armored scale is done during the dormancy of the trees with the salt, sulphur and lime compound. So the owner of a tree owes it to himself, and more to his neighbors, to own a spray pump and to use it, and if he has not got one it is now a good time to prepare for the winter's campaign against the pests, and secure one.

* * *

COMPERE OFF ON ANOTHER MISSION.

We note that the Minister of Lands for Western Australia, whose position is somewhat similar to that of our Secretary of Agriculture, has decided to send George Compere, now the Entomologist for the Department of Agriculture for that state, to India and the Malay archipelego in search for the parasite of the fruit fly, which is playing such havoc with the orchards of Western Australia. Mr. Compere quite recently returned from a trip to the Mediterranean countries, where it was hoped that he would find the natural enemies of the fruit fly, but while pursuing his investigations there he discovered that the fly had been introduced from some other point and that a search for an effective parasite there was useless. The Western Australian government has an abiding faith in the parasitic theory and is keeping Mr. Compere steadily at work searching out the natural enemies of its worst insect pest.

* * *

CODLIN MOTH CHECKS.

Speaking of parasites, it is well known that there are several enemies to the codlin moth, both predaceous and parasitic, in this country, and notably some of the Ichneumon flies, but none of these have as yet been able to keep pace with the pest, probably because they in turn are parasitised, or kept in check by secondary parasites, which prevent them from multiplying in sufficient numbers to cope with the moth. It is sincerely to be hoped that an efficient parasite may yet be discovered and introduced without its checks in order to overtake and keep down this one most serious of all our fruit pests. The codlin moth is a stranger here, probably introduced from Europe, and there, while known as far back as history goes, it is not a serious pest. Why we have not yet endeavored to discover.

* * *

NORTHERN ORANGES RIPENING.

The recent hot weather in Northern California has caused the oranges to color rapidly and shipments from the sections around Oroville will soon commence. The fruit is not yet in condition for market but another month of hot weather will put it in good shape, and the great bulk of the crop will be gone by Thanksgiving. The season is somewhat earlier than usual this year and it is probable that the whole crop of Northern California will be out of the way before the Southern fruit is ready for market. It is a surprise to most people that oranges so far north should ripen so much earlier than those in the south, but one of the pleasantest features of Southern California is responsible for this, and that is the cool nights of the summer months. The growing and ripening processes in the fruit, which are forced during the warm days, are checked by the cool nights and the fruit is therefore longer in attaining maturity than in the interior valleys of the north, where there is less difference in the relative temperature of day and night. The orange sections of the northern counties are usually in the foothills of the Sierra Nevada range, far back from the ocean, with the coast range shutting off the cool breezes from the sea. The soil becomes thoroughly heated during the day and the radiation during the night is slow. As a result of these conditions, citrus fruit there ripens earlier than where cool nights are the rule and growing is checked.

The total amount of fruit shipped this year from Sacramento to date is 5147 cars as compared with 5064 shipped at same date last year.

The almond harvest is now in progress in San Joaquin county. The orchards that were irrigated and cultivated yield much larger. On non-irrigated lands the crop is poor.

Hop growers at Sacramento have been offered 22½ cents for hops. They are holding out for 25 cents. They feel justified in doing this on account of a poor hop crop in Oregon.

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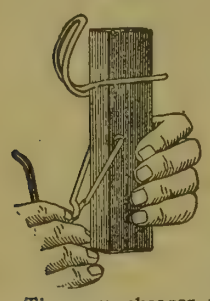

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By J. W. MILLS, Ontario, Cal.

ORANGES

(Continued from first page)

any better time to grow the crops than to plant them in the early fall and plow them under during the winter. There is one conflicting element in this plant and that is, commerthis plant and that is commerccial fertilizers should be applied to the green manuring crop so that it will make a beter growth and also act as a catch crop. This would necessitate planting such crops at the time in which the commercial fertilizers should be applied.

* * *

Gathering and Marketing—The gathering and marketing of the crop are problems that are well worked out and little can be added by us. There are a few points however that are always in order. A prominent and successful grower says that after good fruit is grown, success lies in careful handling. Oranges that are carelessly cut and boxed in the orchard will never carry as well as those handled with care. Oranges that are left in the picking boxes too long before shipping will show up more defects at packing time than those packed fresh from the trees. There are two sides to this part of the question. Shall we ship the fruit before these defects are apparent, or shall we allow the fruit to stand in the packing house a few days and ship only that which promises to ship well? Considered from a business stand point, it appears to us that the latter is the proper thing to do.

ROOTING GRAPE CUTTINGS.

Editor Cultivator:- I am preparing to plant a vineyard and would like to have a few suggestions about rooting cuttings. When should they be taken from the vines and how long should they be made? How deep should they be planted and what treatment should they receive before planting?—Grower Ontario. We have the best success in rooting grape cuttings by taking them off the vines and putting them directly in the nursery rows. We cut our brush about one foot long and leave a bud within an inch of the top. If the canes are open, that is, have a large soft pith, we do not use them. Some varieties are more inclined to be that way than others. If it is desired to use such cuttings, cut the upper ends close to the bud so that no cavity will show. Cuttings with open pith cavities are soft and if a prolonged wet spell prevails, there is danger of their rotting when left so as to hold water. Plant the cuttings that are made in the morning, in the nursery in the afternoon. If this is not convenient, cover them with a wet sack or damp earth until you can plant them. Make your nursery rows four feet apart and plant the cuttings five inches apart in the rows. Stand them straight on end. There is no use putting them in at a slant of 15 or 20 degrees from the perpendicular. It makes hoeing and cultivating close to the plants difficult and does not make a well shaped vine. If you wish to plant in the side of a plow furrow, throw back part of the soil after the furrow is made and stick the cuttings in the soft dirt next to the bank made by the landside or the plow, and have the cuttings perpendicular when they are planted. Leave the top of the cuttings about three inches above the ground. This will bring all of the other buds below the surface. Very often the top bud will not start, but the next below will be just beneath the surface of the ground and in a position to make a good top. With most varieties, there need be no attention given to the point at which the cut at the bottom of the cane is made, as the roots will be thrown out wherever the cut is made. With grapes of the American type and commonly called "Eastern" grapes, the cut should be made through the node or point at which the bud is situated. The cambium layer is much thicker there than at any point. The rootlets start from that layer and most varieties of "Eastern" grapes are slow to start, very often they will fail to form rots when cut between the buds.

A mistake is often made in irrigating grape vines in the nursery, by not allowing the water to run long enough. In our sandy soil, water seeps away rapidly and the roots of grape vines penetrate very deep. It is at the ends of roots that most of the water is taken in, and it must be allowed to reach a depth of at least two feet when irrigating, three feet is better.

If cuttings are to be planted in vineyard form, they should be planted at least 18 inches or 2 feet deep. It is expensive to irrigate cuttings in vineyard form and it is quite frequent that it cannot be done. In such cases the land should be kept well cultivated during the whole season preceding the planting so that no moisture will be lost through the growth of weeds or the making of the surface. Cuttings planted in vineyard form should be put in holes made with a bar, and the dirt settled around them with water. This can be cheaply done with a tank on a wagon with a hose attached.

EUCALYPTUS FAILURES.

Editor Cultivator: I wish you would tell me why I failed with my eucalyptus trees. A year ago last spring, I planted 10 acres to Blue Gums in sandy soil that was wet enough to ball in the hand and the trees were kept wet up to the time of planting. They were raised in the shade and were about 18 inches tall when transplanted from the boxes. I did not shade them and what did not die outright were gnawed off by the rabbits; out of the whole planting I did not get one dozen to grow. This year I planted them out just the same, kept them well watered until transplanted, but used 8 inch trees and enclosed them with Yucca wrappers. As a result, I did not get a single tree to grow. I am discouraged and do not know what way to go at it. Can I raise my own trees and if so, where can I get the seed? Any information along this line will be gratefully received. M. A. G., Pomona.

We suspect that you kept your trees too wet before transplanting them. The boxes containing the seedling should be given but little direct sunlight at first. They should be placed where they will get partial shade at first and gradualy work them into the full sunshine. This can be done by fixing up a cover of old sacks or light cloth. Leave it off at nights and for awhile after sunrise at first. Increase the length of time in which they are in the sun, from day to day. At the end of a week they will not require any cover during the day at all when they may be transplanted into the field without risk on that score. Mr. William Shutt of the Santa Monica Forestry Station has made an unqualified success of growing and transplanting eucalyptus trees and we can do no better than give his methods. When he wishes to grow Blue Gums, he gathers the pods from trees that are being cut down for wood in the neighborhood and places them on paper or in a box in the sun. After a few days they will open and the seed can be separated from the pods by jolting them in a seive. A quantity of red chaff will come from the pods with the seed which is black and resembles onion seed. This can be separated from the seed by the use of a fine seive that will allow the chaff to pass through. In order to raise an 8-inch tree to be planted in the latter part of March, the seed should be planted about the first or second week in September. Mr. Shutt finds that coal oil cases make the most convenient boxes. He cuts them in three pieces lengthwise, this making them about the proper depth. These are filled with good soil so that they will be almost full after the soil has been well firmed. These boxes contain about 100 trees when they are properly spaced. Half inch board is cut to fit loosely inside of the box and is marked so as to contain 100 squares. At the corner of each square a half-inch hole is bored. The board is placed in the box after the soil has been well pressed down and a few seeds dropped in each hole. The board is removed and a light covering of sand is placed on top. The trees do not require transplanting in boxes in order to get a certain number there, or to have them in convenient shape to cut out at transplanting time. If more than one seed grows at a place, they can be thinned to one and if desirable, those removed may be planted in other boxes. Some growers wish to plant in seed beds in the open ground. If this is done, a board floor should be planted about three inches deep first, to prevent the tap roots from striking down which will make transplanting difficult and risky. When planting times comes, the soil in the boxes or seed bed should be allowed to dry out so that the trees show a slight lack of moisture. This is done to make the flow of moisture after transplanting, go into the soil surrounding the roots of the Gum trees. If the ground is more moist than the soil in which the small trees grow, the soil water will leave it, and carry the plant food with it to the trees. If the reverse is true, the moisture in the soil containing the roots of the young seedlings will be drawn out into the surrounding ground. This robs the young plant at the critical time, of its only support. Your chief cause of failure must have come from keeping your seedlings in the box too wet. Your last failure was due mostly to the same cause as your first, but made more sure by smothering them with the tree Yuccas. If you try Mr. Shutt's plan of having them as dry as possible before planting and leave off the Yucca wrappers, we see no reason why you should not succeed. You took too many of the wrong kinds of precautions.

CONQUERING THE ALKALI.

The announcement comes that Prof. W. H. Hellman, a government expert in charge of an experiment station on the alkali flats "over Jordan" in Salt Lake has made the important discovery of some process by which the alkali can be effectively removed from the soil and the land made arable. If this is true, Prof. Hellman has done a work for which he shall be called blessed, for it will restore to use vast areas of the finest land in the west, for there is no better land than alkali land when there's no alkali in it. So far Prof. Hellman has not made his process known, but he looks wise and the process may be published by the government later on. If this is true, it will be a more invaluable aid for the owner of alkali lands than was the salt bush introduced by our own university some years since.

The run on fruit at the Sutter Preserving Co.'s. cannery is about over with, but there will be a large pack made of string beans and tomatoes for the next month or two. A large force of hands are employed and more are wanted. The beans and tomatoes are grown in this vicinity and are of choice quality.—Sutter County Farmer.

It is estimated that the Anderson orchards near Redding will this year produce 1500 tons of dried prunes, at 2½ cents, bringing the crop to about $75,000.

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COUGH.

Editor Cultivator I have a cow which has a deep cough. She has been sucking a calf since August first. Has good appetite and gives a good quantity of milk. She shows no sign of pain. Can you give cause and a remedy.—C. G.

Test with tuberculine for tuberculosis.

* * *

HEAVES.

Editor Cultivator: I write to ask you if there is any remedy you can advise for heaves in a horse. The mare I have is not over 9 years old and well worth $75 if she were well. If there is anything you know of advise me, and will gladly reward you.—B. A. M.

When a horse really has heaves or emphysema he cannot be cured. This condition is a breaking down of the minute air cells or the lungs, so that instead of having thousands of minute air cells there are large bubbles similar to a hog's bladder blown up. The lung has lost its power to expel all the bad air, consequently cannot inhale enough fresh air. The disease is relieved by giving one ounce daily of Fowler's solution of arsenic.

* * *

RETENTION OF MILK.

Editor Cultivator: I have a fresh milk cow that refuses to let down her milk. Her udder seems hard and swollen, and I think has large quantities of milk. Can you tell me through the columns of your paper any way to compel her to let down her milk.—F. T. W.

There is a sphinctor muscle at the top of the teat that closes an opening at the top of the teat similar to the sphinctor muscle at the bottom, closing the opening at the bottom of the teat. When a cow is excessively nervous from fright or other cause this upper muscle becomes contracted, and it is said the cow don't give down her milk. This upper opening may also become closed from inflammatory swelling of the mucous membrane lining the teat.

* * *

DILATED WITHERS.

Editor Cultivator: The withers of two of my riding horses seem in bad condition There is an almost imperceptible swelling there, but when they are ridden for two or three hours and galloped the withers become much inflamed, usually on one side. Swelling gradually goes down in about seven or eight hours: This trouble with the withers I know is the result of Indians riding the horses without currying horses backs, not putting enough blankets on and galloping over rough country Horses stand it for three or four years, now are knocked out They are strong, finely built Morgan horses, splendid for work or under a saddle except for this difficulty Will a long rest cure them? How long? What is your opinion?—A. L. Utt.

There is a bursa on each side of the top of the dorsal vertebrae at the withers which assists the gliding of the neutral ligament that goes from the withers to the top of the head. When these bursae are injured or bruised they swell up similar to the puffs at the fetlock called wind galls. An application of cantharides blister over the enlargements at the withers once a month for three months and rest during that time usually brings about a cure.

* * *

MYCOTIC INTOXICATION.

Editor Cultivator: I have one sow and six pigs that I wish you would please tell me what is the matter with them. The pigs have been weaned a little over one month, they stagger around as if they were drunk. Now the sow is affected the same way. I feed them one quart of molasses in a bucketful of water night and morning, also soaked barley, stock beets and green alfalfa, all they will eat. They seem to be hungry all the time. They have shady, clean pens, and are in fairly good condition. Please answer through the Cultivator and oblige.—Subscriber.

There is a fungus or other poisonous product in the feed or what they get access too, that is effecting the nervous system, causing the paresis.

BEE SUPPLIES—G. G. Wickson & Co, 123 N. Main Street, Los Angeles, Cal.

AN IMPORTANT RECOMMENDATION.

At the present time the Scutellista Cyanea, the parasite for the black scale is attracting the attention of all citrus fruit growers. The question which many of those fruit growers are considering, is whether they shall fumigate or spray their orchards now or wait for this parasite to be introduced and let it do the work of destroying the scales.

The length of time required for the Scutellista to clean an orchard from black scale will depend upon the amount of scale in the orchard at the time of the introduction of the parasite, for if two colonies of the Scutellista equal in numbers are released, the one in an orchard heavily stocked with scale, and the other one in an orchard with but few scale, it is evident that with the same rate of increase in both colonies the one placed in the orchard with but a light stock of scale, will clean it up much sooner than the orchard badly infested. The orchardist who does not fumigate or spray his orchard this year because he anticipates placing a colony of Scutellista in the orchard next summer will have the following results.

The crop of young scale now hatched will injure the next year's crop of fruit. The colony placed in the orchard next summer will have no perceptible effect upon the quantity of scale infesting the orchard, and the orchard left without cleaning for a second year will be stocked to its fullest capacity with scale. The second year after the parasite has been located, it will under the condition of the scale then existing in the orchard, probably destroy from 50 to 75 per cent. of the scale, leaving a good stock of scale to go over to the third year, when it is to be hoped the fly will be numerous enough to practically clean the orchard. One thing should be remembered, the adult fly does not feed on the young scale, it only attacks the matured scale by depositing an egg under the shell from which hatches the larvae of the parasite, and this larvae feeds on the egg and larvae of the scale under which it is established. All the larvae of the scale which get out from under the shell are immune from the attacks of the parasite until they have arrived at maity. From this, it will be seen that the parasite does not destroy the individual scale until it has arrived at maturity, and therefore not until the scale has drawn its life's support from the tree and fruit.

Thoroughly clean the orchard this year, then locate a colony of the Scutellista next summer and the parasite will under these conditions, quickly clean the orchard, and the trees and fruit will suffer but little or no injury from the scale. The colony of Scutellista located on Marengo avenue, Pasadena, has been very successful. The colony was placed there the last of August, 1902, and this is its second year of work. There is still a fair stock of young scale on the pepper trees to go over to next year. I am confident that the fly will practically clean the trees next summer.

For the year of introduction the fly made but little showing. This year an inspection on July 1st, the parasite was found attacking the scale on 12 pepper trees; July 18th, 18 trees; August 1st, 48 trees; September 1st 225 pepper trees; and on fruit and ornamental trees covering about 75 acres. My reason for believing this parasite will effectually clean these trees next year is that an inspection the first of August of the trees near where the colony was established showed 90 per cent. of the scale then in condition to be parasited, to have been attacked by the parasite. But it must be remembered that at that date nearly 50 per cent. of the scale had hatched out before the fly had became numerous enough to be effective Less than 5 per cent. of the scale on the pepper trees on which the parasites have last located have been parasited, for the reason that the bulk of the scale had hatched out before the flies became numerous enough to cover the whole area now occupied by them. It should be stated in this connection, that about 700 colonies distributed through the Horticultural Commission of Los Angeles county were drawn from this source, but not to any amount until after the first of August.

All applications for colonies of the Scutellista for Los Angeles county should be addressed to J. W. Jeffrey, Secretary of the Horticultural Commission of Los Angeles county.

C. A. DAY.

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FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

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2½ acres of new strawberries, good water right.

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A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

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Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

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One-half mile frow two electric car lines Seven-room honse, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house snd barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

GRAY & NELSON
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C. H. SESSIONS, Associate Editor

DAIRYING IN CALIFORNIA.

The Cultivator has for some time past urged the fact that California ought to be one of the most successful dairy states in the Union. Its climate, so well adapted to the finer breeds of milk cows, its vast ranges for grazing purposes and especially its undeveloped territory in the northern part of the state, should attract the attention of dairymen the country over, who seek a territory where conditions favor the development of dairying on a broad and comprehensive scale. Along this line the San Francisco Chronicle very timely discusses the subject and offers some pertinent suggestions which deserve more than a passing notice. Special reference is made to coast counties, in the article, but above San Francisco, and in territory contiguous, the same conditions obtain as prevail near the city, especially so far as feed and water are concerned. The Chronicle says:

"One of the important although half developed industries of California is dairying, for which the coast counties north of San Francisco are eminently adapted. For many years these counties, with the addition of the coast market for agricultural produce. The cost of crossing the coast range with railroads has thus far prevented that easy access which has made other sections of California so well known. While lumbering was confined to the district immediately adjacent to the sea and Eastern prices for lumber would not warrant rail transportation to those markets it was impossible to enlist capital to build railroads over the Coast range. All this has changed, and Eureka will soon be as accessible as San Jose. In the meantime any who are exploring California will be well paid for the trouble of a trip north by sea. It is a country with growth in it.

FINE SHORTHORNS FINELY CATALOGUED.

Dealers in farm machinery and nursery stock have always had a faculty of putting on beautifully printed catalogues and price lists which have proved business bringers and been a source of much profit.

The live-stock people of California have not as a rule yet reached up to this method of reaching for new business. This makes the pleasure all the greater when such a catalogue is seen as is put out by the estate of William H. Howard of San Francisco. This is the catalogue of the Quinto Herd of Shorthorns. It is a pamphlet of twenty-four pages in cover printed on coated book filled with half-toned pictures of Shorthorn stock and Quinto Ranch scenes. The text is descriptive of the stock of that ranch together

Royal Fashion, 191757, 1st Premium 2-Year-Old Bull, State Class. Property of Wm. H. Howard Estate, San Francisco.

districts of San Mateo and Santa Cruz, had almost a monopoly of the butter and cheese making of this state, and although in recent years the introduction of modern appliances, the use of the silo and the extension of the manufacture of ice have enabled the interior alfalfa-growing counties to make great strides in this industry, the northern coast, and especially Humboldt county, remains the great natural dairy district of the state. All that can be done in the interior can also be done in Humboldt county, and there is the addition of the natural advantages arising from an earlier, later and larger rainfall with which to produce feed. Dairying in Humboldt county differs from dairying in the interior by reason of the possibility of greater reliance on nature to produce feed. The ranges start earlier and last longer, and in some sections the turf-producing grasses will thrive and give permanent meadow. Irrigation is as possible there as elsewhere.

These reasons have enabled Humboldt county to retain its pre-eminence as a butter-producing district, and dairying is the chief agricultural industry of the county. The abundant rains on the northern coast unfit the section for fruit and other more speculative agricultural industries and have compelled its people, possibly against their wish, but certainly very much to their advantage, to adhere closely to the staple agricultural industries which do not appeal strongly to the imagination but contribute with far more certainty than others to the pocket and which are the foundation of prosperous agriculture the world over. The northern coast is a country well timbered, well watered and well adapted to all forage plants. The sea assures cheap transportation forever, and the large lumber interests provide a steady and profitable home with pedigrees and other valuable information.

This herd is headed by the famous bull King Spicy 129279. His get with the two junior herd bulls, Royal Fashion 191757 and Chief of Valley View IV, 182500, were awarded forty-five premiums at the vaarious classes at State Fair season 1903, making practically a clean sweep in the state classes and also more than dividing the honors in the open class. We think it worthy of especial notice of breeders that the herd was awarded both first and second premiums in both the open and state classes for the best breeders young herd under two years old. This certainly bears out the statement which appears in the first page of their catalouge that they breed their show cattle and show their breeding cattle. Further evidence of the merits of their herd as producer of young stock of the first quality may be obtained by a perusal of the official list of cattle awards of the California State Fair season of 1903, published last week in the Cultivator.

The office of the growers of this herd is at 206 Sansome street, San Francisco. The ranch is on Quinto Creek, Merced county, with M. L. Hunt, superintendent in charge.

WHAT IS THE BEST BREED OF CATTLE FOR NORTHERN CALIFORNIA.

Notwithstanding the fact that the editor of this paper is engaged in breeding the type of beef cattle known as Herefords, he does not believe that other breeds may not contain highly profitable cattle. The famous Shorthorn has for many years been regarded as having universal merit. But of late the Aberdeen Angus cattle have attracted wide attention and it is to this breed we desire to call attention in this writing. The most successful raiser of this class of cattle in the West is W. A. McHenry, of Iowa, and R. E. Candor of North Dakota. These gentlemen vie with the breeders of Herefords and contend that the Aberdeen Angus is as good a strain of cattle for cool and wet countries as the Hereford is.

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California's Premium Herd of Shorthorns
27 Premiums awarded State Fair, 1902
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Young Stock For Sale
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Ohio Improved Chester
The Coming Hog. Not Liable to Cholera.
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A young man who is a good milker and experienced in caring for cows, to take charge of our small herd of Jerseys. A good opportunity for a man who desires to add scientific knowledge of feeding and management to practical experience. Good wages to the right man. Address, with references,
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Registered and High-Grade Shorthorns
All Inoculated for Texas Fever, at
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Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons, KINGSBURG, CAL.

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Both Sexes For Sale
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YOUNG HOLSTEIN BULLS
Percheron Brood Mares and Stallions all Registered. Write or call.
Minnewawa Stock Farm, Fresno, Cal.

REGISTERED BERKSHIRE HOGS
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BOARS—ARTFUL LEE, 52930. Champion Boar, California, 1900, PACIFIC DUKE, 56691, three-quarter brother to N. H. Gentry's famous Lord Premier.
SOWS—MODEL PRINCESS, 60134, first prize two year sow, Pan-American, '01. FASHION, 60133, weighs 1000 lbs. in show condition. The greatest brood and show living.
YOUNG STOCK FOR SALE
S. B. WRIGHT, Breeder Santa Rosa, Cal.

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MOLASSES, 75 cents per barrel. Consists almost entirely of carbohydrates. (sugars) cheapest and best food for fattening stock of all kinds. Send for testimonials regarding feeding value of molasses for working horses, fattening cattle and growing pigs and calves.
The Louisiana Planter says: "It has been proved conclusively a pound of molasses has a feeding value about equal to that of a pound of corn."
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We are offering for sale at very low prices a magnificent lot of bull calves. In our herd may be found all the leading families of this great breed of Dairy Cattle. There is no grade equal to the get of a fine Holstein sire on common cows. Visit the ranch, or write
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OF

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Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is

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329 **Bellows Falls, Vt.**

Mr. Candor, in a letter to the Farmer discusses the shorthorn merits with much intelligence, and among other points in its favor, makes the following:

"It is primarily a beef breed yet there are many good milk cows among them. Any cow in my herd will raise two calves, and do it right. We are willing to base our pure-bred values upon the high esteem in which the breed is held on the Chicago market. At the international exposition of 1901 the Angus furnished the grand champion steer and another one to spare. Not only this but Angus grades won three-fourths of the prizes throughout the fat cattle classifications of this show, where the breeds competed, including the grand champion car load that sold for $150. The breed that can present such specimens of the finished product and show such wonderfully easy feeding and early maturing certainly deserves the careful consideration of those interested in stock breeding. They are a solid black in color, above the underline, and have no horns. They will attract attention, and their evenness, in a bunch, will sell them over perhaps equally as good individuals of mixed colors with horns. Cold, damp weather effects them as little as any cattle on earth and they are the best of rustlers. A properly bred Abredeen Angus bull crossed upon native cows will result in about eighty-five per cent of the calves coming black and polled, without horns. One cross of this breeding changes the crop of calves from a lot of mixed colors and horns to practically one color and no horns. Surely there can be no question but this is a desirable improvement Not only this but the calves will have a tendency to the early maturing properties that has brought this breed so rapidly to the front on our prairies. This cross in a herd of high grade Shorthorn cows will produce calves that need but one trial to bring enthusiastic converts to cross-breeding, bringing out, as it does, some of the best qualities of both breeds. This is past the experimental stage. We have them right here among you and my own correspondence assures me that many are waking up to the fact that scrub cattle in North Dakota pay only a fraction of the profit the better bred beef cattle do. If we breed cattle for the money there is in it then the best is what we want. We want them even, early maturing, good rustlers and without horns. This is exactly what Aberdeen Angus cattle are when either pure or high grade."

WHY MILK VARIES IN TEST.

Prof. J. A. Conover of the Kansas Station, writes of milk tests as follows in Farm and Home.

At nearly every institue attended by Prof. Cottrell and myself, the question was asked: 'What is the reason our milk tests 2.6 per cent one month and next, under exactly the same conditions, it tests 4 per cent or more?' There are a great many things that affect the test, so that we cannot point to any one thing as doing it. In the first place, the conditions are never "exactly" the same; the pasture may be better one month than another, the weather may be cooler or warmer, perhaps you encourage the cow less with the milk stool, or perhaps the boy who brings them in does not get them so much excited. All these things, and many more, influence the per cent of butter fat."

Kindness is sure to be rewarded by an increase in both the per cent of butter fat and also in the milk yield; whenever you abuse the cow, either by a sharp word, the milk stool, or by running her, you are taking money out of your pocket by decreasing the per cent of butter fat, and also the yield of milk. Whenever the cow suffers for lack of food, water or lack of proper care, there is a decrease in the amount received from her.

There are other reasons why your test may be lower one month than another. When the milk is warm, it churns very easily, so that when you send your milk to the station in cans only half full, they will be partially churned when they get there. There is no way of getting a fair sample of such milk, for the butter fat that is churned is lost both to the patron and to the creamery. If you have a can and a half to send, fill one can full, so that you will be sure to have that much that will not be churned. Keep the milk as cool as possible, as it does not churn so readily at a low temperature

If you do not want low tests, do not take the first milk yourself and let the calf have the last. The first milk often tests as low as one-half of one per cent, while the last will test from ten to twelve per cent. Don't skim all your milk before you send it to the station, and then expect it to test six per cent.

To the creamery man I would say, keep all the samples of milk from churning, if possible; good tests can never be obtained from a churned sample without the use of ether, and this is too laborious a process for you. It is claimed by some that simply heating the milk to a temperature that will melt butter fat will answer, but my work in this line convinces me that satisfactory results can never be obtained in this manner.

Hoard's Dairyman says "That the dairy idea has so long existed in the Willamette Valley, Oregon, and other dairy districts in that state, that the prevailing type of cattle there are Jersey grades. It is generally the case that where farmers become imbued with dairy ideas and strive to reach the best perfection and profit in their business they soon see that one of the most important aids to such results is a cow bred for dairy purposes."

The same idea exists in the dairy districts around San Francisco, and, we are glad to say, in Southern California, although not as general as should prevail. Dairymen must come to the conviction that only the best bred cow is the profitable one to keep.

The Fresno Republican of this week calls attention to the trouble Mr. Heiskell of that county has lately experienced in endeavoring to move a herd of 2500 cattle through Inyo county, Grove and Meadows and Crane Valley country. Somebody had circulated a report that his cattle were infected with anthrax, a contagious disease that the veterinarians and all cattle people have been discussing a great deal of late. So great is the fear among stockmen of this disease that over anxiety seems to have seized hold of them in this case for not a single head of Mr. Heiskel's cattle was affected by this disease.

Superior Judge Peter J. Shields, of Santa Rosa, in alluding to the fine show of cattle at the State Fair, some from Nevada, some from this state, says: "The animals, while an earnest of what California and Nevada can do in producing fine catle, are but a hint of what may be done. The breed of cattle that will eventually take first rank in California will be the milk and butter producers. The dairying possibilities have scarcely been realized. Humboldt county has grown rich out of its dairies. Counties in the interior are just awakening to the great possibilities offered. California butter production should be doubled and ere long will be."

Some dairymen think if they do not get a good price for their milk at the creamery that the fault lies with the creamery; they should remember that the patron produces the butter—the creamery only separates it. Patrons should not forget that the interests of the creamery and their own are the same

---

A Dakota dairy bulletin says: "The per cent of butter fat is governed by the breed and not by the feed."

JERSEY FOR SALE

A FINE BULL CALF

Seven months old, cut of Rhyme, Nr. 125266, and sired by Golden of Biltmore. No. 73713. For price and pedigree address

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Cor. 7th and Pine Sts. Riverside, Cal.

Advertising Column for Members

OF THE

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OF SOUTHERN CALIFORNIA

An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.

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See breeding in issue September 11th

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REGISTERED JERSEY CATTLE

Geo. W. Thomas Riverside, Cal.

Three Young Bulls

FOR SALE

W. Jay Cole, Anaheim, Cal.

MARIGOLD'S ORANGE TORMENTOR

Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

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HIGH GRADE, STANDARD BRED JERSEYS

2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad

AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.

GEO. Y. COUTTS Orange, Cal.

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Leffingwell Rancho, Whittier, Cal.

Service bull "SARGENT FOX" 64,833, by Flying Fox, out of a noted Island cow.
Terms reasonable. Liberal reductions to those coming from a distance.
No charge for service on cows having authenticated fat or butter records.

Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

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Each cow's milk is weighed daily and tested regularly. Well-bred young bulls from large yearly producers for sale at reasonable prices

GUY H. MILLER, Riverside, Cal.

Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

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JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

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Melia Ann and Golden Lad blood in lead. Write or come and see.

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Nothing Succeeds Like Success

You Will Have Success if You Feed Your Hens Coulson's Egg and Feather Food

Coulson's Egg Food has been fed with success for over a year by many of the oldest and largest owners of poultry ranches in the State of California.

Geo. Gaston, who has about 2500 laying hens, feeds over 50 sacks a month of this feed.

Mark Hardin, who has about 3000 head of poultry, takes out four-horse wagon load every couple of weeks. Mr. Hardin says that the hens do much better on this feed than when fed on middlings, etc.; that when they are fed on Coulson's food they look well and are lively and spry and lay more.

P. Jensen, who has several thousand hens, feeds from forty to fifty sacks a month of this feed.

Walter Church, who has nearly 3000 hens, has been feeding Coulson's Egg Food for about a year, hauling it out by the four-horse wagon load; also C. C. Boysen, who has about 3000 hens.

These men are successful poultrymen, who have been raising poultry for the past ten years and longer and they know the value of good feed and proper feed for poultry.

So, when such men as these feed it and continue to feed it, it must be good.

Besides these gentlemen we have on our books the names of over 500 customers who live within a few miles of Petaluma. This speaks well for our home trade and our shipping trade is increasing rapidly.

Goods Brought From All Parts of the World.

Few realize the immense amount of goods purchased to make our Coulson's poultry foods. A carload of millet seed has been contracted for at St. Paul, Minn., to be delivered to A. R. Coulson & Co., Petaluma, by the first of November. Three carloads of prime cotton seed meal is to arrive in November and December from cotton mills near St. Louis, Mo. We buy flaxseed and oil meal from Oregon and shorts and middlings from mills in the State of Washington, contracting for them several weeks ahead. We get corn that comes from Kansas, rice from China, chile peppers from Japan, coaconut meal from Mexico, powdered willow charcoal that comes in car lots from the states of Pennsylvania and New York, high grade deodorized blood meal from packing houses in Kansas City, fresh ground butcher's bones shipped weekly from San Francisco, burnt bone, charcoal, from San Francisco, ginger root from Africa, fenugreek from France and Germany, pepper from Japan, sulphur from France, ground eastern oyster shells from Atlantic coast, hulled oats and pea meals from San Francisco and other grains and feeds from all parts of the Pacific coast wherever we can get choicest feed at lowest prices.

Just Off the Press, 10,000 36-Page Books, a combined catalog and poultry account book, free to poultrymen.

Petaluma Hens Fed on Coulson's Poultry Feed

If you are in the poultry business, why not get two or three of your neighobrs to go in with you and purchase a carload of this feed and get the lowest prices and less freight.

Coulson's Egg and Feather Food, a balanced ration for laying hens, Coulson's Chick food for little chicks, Coulson's poultry foods are now for sale by more than 100 stores in California.

If no store handles it in your town, write to us and you can have it shipped to you by steamer or freight.

RECOMMENDED FOR MERIT.

Petaluma, March 28, 1903.

A. R. Coulson, Petaluma, Cal.—Dear Sir: We have been feeding your chick and egg food for the last three months, and find them all right. The egg food is O. K. for when one feeds it he is sure to get more eggs.

And for the chick food, it cannot be beat, for our chicks are looking fine and our last batch of 310 is a week old and we have only lost two. The other hatch that came off on February 22nd are as tough as nails as they have been fed on Coulson's food right along.

We will continue to feed your foods to our little chicks and old hens.

Any one who has not fed the chick food to their chicks should give it a trial, and there will be one thing they will be pleased to find out—that they will not find many dead chicks in the brooder every morning. Attend to the brooder the way it should be run and the chick food will do the rest.

Wishing you success, we remain,
The Wild Flower Poultry Farm.

A. R. COULSON CO.

(Incorporated)

772-774 Main St., Petaluma, Californi

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

WOMAN'S WORK IN THE POULTRY YARD.

It is with pleasure that I take up my pen again after my vacation to talk about 'Woman's Work." A busy pleasant vacation it has been, for the University of California (Berkeley) engaged me through Professor Cook, to go to the Farmer's Institutes in their University extension to talk "Poultry." I felt honored at being selected to do this, and I have greatly enjoyed meeting many bright intelligent men and women at these institutes, who greeted me as a personal friend having become acquainted with me through the columns of the Cultivator. I hope this friendship may last many years, and here let me say I greatly regret that I was obliged to leave so hurriedly at Upland to catch the train. I had to cut short much of my "talk."

The thing that impressed me most in my trip was the paternity of our good government, and the great value to all of us of the researches being made at the different experiment stations, and by the government commissioners and experts such as Professor Cook, Messrs. Maskew, Mills, Baker, Braunton, Dr. and Mrs. Sherman and others.

The government may pay these great men for a small portion of their time, but no coin can recompense them for the patience and perseverance, the constant and alert brain work, all of which is given to us as a rich feast at these institutes, helping us to combat the foes in our own lines of work, offering to us the results of their brain work to enable us to reap great harvests.

The Cultivator is working on the same lines and it is my desire to repeat some of my talks on poultry in these columns and also enlarge upon them—taking up profitable poultry keeping in all its branches, especially the commercial side, eggs, broilers, fryers, roasters, etc. One of the latest books on profitable poultry keeping says:

The outlook for the poultry industry never was better or brighter than it is today. The wide cattle ranges of the West are rapidly being taken up by homesteaders and put to other uses than for grazing cattle. Within the last few years beef has advanced greatly in price, and from being a common household commodity bids fair to become a luxury.

Poultry and eggs can be, and are, easily produced on limited ranges, and can be so cheaply produced that the selling price may be much less than it is today and still have the business show an attractive margin of profit. As the price of other meats goes soaring upward, the public will naturally turn to poultry and eggs as a cheap article of diet, and thousands more pounds of poultry and millions more eggs will be consumed. The demand is bound to increase year after year. To meet this growing demand our main dependence will be our ability to produce low cost poultry and poultry products through the aid of modern methods of artificial incubating and brooding.

* * *

DOES POULTRY PAY.

This is a question frequently asked me. Poultry does not pay an extraordinary profit to anyone. It is not a "get rich scheme," but it is decidedly more profitable for the amount of capital invested than any other legitimate business.

The veteran poultry breeder and judge, I. K. Felch says: "Women are a success in the poultry business, they do the right thing at the right time.

Fowls neglected bring failure, intelligently cared for they pay a profit, women care for them and they succeed.

On farms where fowls are well cared for the profits are often surprising and the good wife finds, not only much pleasure and healthful relaxation in attending to the wants of her feathered friends, but also has money of her own to spend.

I know one lady, who paid all the grocery bills, bought herself a nice horse, beautiful buggy, harness and robe with her "hen money."

With better care than is usually given the farm poultry can be made to yield double the present profits. The average farmer is a very busy man and even if he has an inclination for it, has very little time to devote to poultry keeping. As a rule whatever fowls are kept on a farm are cared for by the women, and frequently these fowls are the commonest scrubs and mongrels of all ages and sizes, have no regular abiding place, roost in the trees on the farm implements, and lay whenever and wherever they wish. They are seldom fed regularly, but live on waste grain or feed scattered by the other stock and it is a wonder they thrive and do as well as they do.

Where modern methods and thoroughbred poultry are introduced on the farm, the profit from the fowls soon equals or eclipses that of any of the other stock, and many a farmer's wife has, with money earned exclusively by her thoro'bred fowls, lifted the mortgage from the farm and saved her home.

A start can be made by the purchase of a few thorough-breds or even by buying eggs for hatching.

I knew in New York a farmer's daughter, college bred, who, on her return home, was more ambitious than her neighbors, and consequently would not follow the fashion there of exchanging roosters for a season, or trading settings of eggs. She sent to a breeder of thorough-bred Plymouth Rocks, for a vigorous young cockrel, that season nearly all the young fowls had Plymouth Rock feathering more or less pronounced, the following year she purchased from the same breeder another cockrel and some thoro'bred eggs and she soon developed the finest flock of Plymouth Rocks in the county. She sold eggs for settings and made a great deal more spending money than her neighbors.

Thorough-breds make more money and are more satisfactory in every way than mongrels or cross breds. They have been carefully bred for a purpose, it is no haphazard method, which may chance to succeed, they are not only finer, larger birds, but are bred to lay and will give many more eggs than scrubs.

Why do farmers keep thoroughbred cows? Why are they so particular to have the male from a butter-making family or strain?

We in the poultry business are equally particular to get the best layers, and mate them to a son of a best layer and so increase the egg production.

INDIAN RUNNER DUCKS
White Leghorns and White Rocks
Eggs $1 a setting; $5 per hundred
Foster's Fowlery **Florence, Cal.**
One mile south of Los Angeles limits.

MATURED
Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
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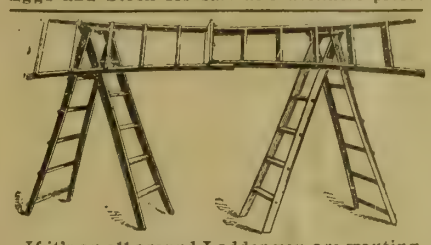
BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
Eggs and Stock for sale at reasonable prices



If it's an all around Ladder you are wanting, our "ACME EXTENSION" can't be beat. A double Step Ladder and a Straight Ladder combined. Built of best spruce lumber, every step bolted and riveted throughout, with new automatic lock. Circular free.
GEO. H. MARSH, **Pomona, Cal.**

TURKS and BASHI-BAZOUKS OUTCLASSED
To successfully wage a
WAR OF EXTERMINATION
against Lice and Mites, you must use modern weapons. Case containing Guns, Powder and Complete Ammunition to
Slaughter Millions
$2 50, Freight Prepaid.
SPEEDY and COMPLETE VICTORY
assured. Send for catalogue.
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White Leghorns and Barred Rocks
The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.
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The largest poultry supply house in the United States
KOW-KURE BAG BALM *LEE'S STOCK CONDITIONER* *LEE'S FLYO-CURO*
COTTON SEED MEAL
"THE ECONOMIC FEED"
Endorsed and Fed by Leading Dairymen and Stockmen
HENRY ALBERS
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Don't believe all we say but just enough to try our Poultry foods.
Emery's Pure Meat Meal Emery's "B. B. & B."
Ask your nearest dealer for them and take no imitations.
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

WHITE PLYMOUTH ROCKS
GIVEN AWAY
"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.
Eggs—13 for $2.00.
INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2.50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.
Mrs. A. Basley
Near Los Angeles, Alma St. Prospect Park, Cal.

100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO. PETALUMA, CAL.

It is simply wonderful to note the great increase in the egg yield of the hen in the last decade.

This has been accomplished by the care and painstaking of poultry keepers and now the farmers are awakening to their opportunities, are getting the thorough-breds and making money by them as never before.

* * *

Editor Cultivator: Do you know anything about the poultry foods recommended in your paper? Please reply and oblige. MRS. J. F. Y.

I have tried Coulson's food for hens and find it excellent, it helps on the moult and is a good well- balanced ration. MRS. A. BASLEY.

The output of sweet wine in Los Angeles, San Bernardino, Orange and San Diego counties for 1902 was 1,000,000, gallons, and of commercial brandy, 40,000 gallons. It is estimated that this year's vintage will be 25 per cent. greater.

The apricots of Ventura county, estimated at about 2000 tons, are about in the warehouses. Growers are expected to get about eight cents for the fruit.

The Short Course in Dairying, offered by the University from October 6, to December 17, has been strengthened by revision of the plans. More time will be given to the subject of "Milk Production." Professor E. J. Wickson will give twelve instead of six lectures on "Grasses and Forage Plants," and Professor E. W. Major's lectures on "Feeding Farm Animals" and on "Breeds and Breeding," will be twenty instead of twelve.

The Riverside Press reports several sales of orange orchards in that vicinity and prophesies a brisk trade in that line of real estate this fall.

Hollywood, says a writer in the Rural Californian, is exceptionally fine for production of lemons. It is also unsurpassed for melons of all varieties.

The Covina High Land Citrus Union of which Gen. S. P. Jennison has long been the honored head, has just closed a very satisfactory year. C. S. Beardsley succeeds Gen. Jennison as president.

The Grain Growers' Executive Committee in session in Sacramento last week discussed the matter of doing away with sacks, the farmers to ship their grain in bulk. This would mean a saving of over $1,500,000 anually to the grain growers of California.

A colony of new bugs for destroying scale has been placed at Whittier to see if they can do some good in that locality. They are much needed to operate against the scale which is plentiful on the orange trees there.

It is reported that the San Joaquin ranch this year will produce about 80,000 sacks of lima and black-eyed beans. Limas are contracted at 3¼ cents per pound and black-eyed at 2¼ cents.

The second annual convention af the National Nut Growers' Association will be held at New Orleans, Louisiana, October 28th and 29th.

The report comes from New York that the new crop of California beet sugar was being offered to Missouri points at a price 10 cents below the minimum price named by cane sugar refiners.

The editor of the San Francisco Chronicle says Nebraska is the only State that can be considered as a competitor to California in the production of sugar beets.

The practice of disposing of orange culls to pedlers is severely criticised by growers and wholesalers. The culls can be used by extracting the juice, which when bottled makes a wholesome and saleable article.

The almond crop is nearly harvested at Fair Oaks and is better than had been expected. The olive and orange crops promise well.

POOR TIRED MOTHER.

They were talking of the glory of the land
beyond the skies,
Of the light and of the gladness to be found
in Paradise,
Of the flowers ever blooming, of the never
ceasing songs,
Of the wandering through the golden streets
of happy, white-robed throngs;
And said father, leaning cozily back in his
easy chair,
(Father always was a master hand for comfore everywhere):
"What a joyful thing 'twould be to know
that when this life is o'er,
One would straightway hear a welcome from
the dear ones gone before."
And Isabel, our eldest girl, glanced upward
from the reed
She was painting on a water jug, and murmured, "Yes, indeed!"
And Marian, the next in age, a moment
dropped her book,
And "Yes, indeed!" repeated with a most
estatic look.
But mother, gray-haired mother, who had
come to sweep the room,
With a patient smile on her thin face—leaned lightly on her broom—
Poor mother! no one ever thought how much
she had to do—
And said, "I hope it is not wrong to agree
with you,
But seems to me that when I die, before I
join the blest
I'd like just for a litle while to be in my
grave and rest."

—Margaret Eytinge.

THE NEAR ROAD.

The footpath that ran from the Warner place to the Sherman place had been much in use once, but that was when David Warner and Clara Sherman were children. For years now it had been overgrown with vines and choked with fallen branches. The families had quarreled, and the "near road" which they had so often traveled together, had become a place to be avoided.

The children, who used the footpath most, were sent away to school, that they might not meet. Mrs. Warner ceased to go to quiltings and tea parties where Mrs. Sherman was always a guest. Mrs. Sherman joined another church, five miles away.

It might have seemed that the quarrel would end when Mr. Warner died; indeed, Mr. Sherman had grown lukewarm about it as he grew older. But Mrs. Warner appeared henceforth to cherish a double grievance—her husband's and her own—and Mrs. Sherman was no whit behind her in bitterness.

Then, as it chanced, David Warner and Clara Sherman, returning from their different schools on the same day, found themselves set down at a lonesome little country station, condemned to wait for hours for a delayed train. They recognized each other, and because the family quarrel seemed to them a needless and foolish thing they renewed their early friendship at once.

The mothers fumed when the girl and the young man went home and told of the encounter, but neither of the young people realized how deep was the enmity between the women. Thus it was that when Sunday came David rode over to the church the Shermans attended, and spoke to Clara after meeting, "in the face and eyes of everybody." There were plenty of gossips to carry the tale to David's mother, and they did not delay in doing so.

The next morning, early, a tall, gaunt old woman shut the gate of the Warner place behind her and took her way down the main road. She was going to "have it out" with Susan Sherman, the woman who was using her daughter to win a son away from his mother. Melinda Warner saw through the scheme! She meant to confront the woman in her own house and tell her so.

It was so early that the woods on one side of the road were still alive with bird songs. In the fields on the other side the men were cutting corn. She could hear them calling to one another with a great deal of light laughter; but she knew that David's voice was silent, although he was working there. For the first time in his life she had had a disagreement with her boy—and all on account of those Shermans.

Down the slope of the hill, along the pleasant valley and up the farther slope she went. Years had passed since she had last traveled it, but she knew every inch of the road. How the vines over the Shermans' front porch had grown since she saw them last! She stood under the shadow of them for a moment—a poor, lonely old woman, remembering old times; then she raised her hand and gave a loud knock at the open door.

No one responded. She could see that the front room was empty, but a sound of sobbing came from the room beyond, and she went in. A girl who seemed to have been lying across the bed sat up and pushed her hair from a tear-stained face.

"Where is your mother?" demanded the stern old woman in the doorway. The question recalled Clara's griefs.

"Oh!" she cried, with a fresh burst of tears, "she has gone over to Mrs. Warner's—and she is so angry—and I know she'll say something dreadful and make the quarrel worse than ever—and all because David and I don't want to be enemies! Why should we be enemies? Why should this silly quarrel go on? And now she's gone over there to insult David and his mother, and they'll never forgive it."

"She won't find David or his mother at home to be insulted," said the old woman in the doorway, trembling with passion. "My son is in the field at work, and I'm here."

Clara sprang to her feet with a cry of delight. Before the astonished old woman could think the girl had thrown both arms around her neck and kissed her.

"Oh, I know you now!" the girl exclaimed. "Don't you remember the little red-headed Sherman girl you used to pet because you hadn't any little girl of your own? I'm Clara. Don't you remember the time I sprained my ankle, and how you carried me all the way home, and how I didn't want to go away again? How proud you must be of David! Isn't he a splendid fellow?"

The round young arms about her neck, the fresh young cheek against her withered face, the old time called back by this sweet young voice!

The bitter old woman had passed many lonely, loveless years. Her son had been away, engrossed in his studies. She had felt herself shut off from the world. And here, all at once, was this girl with her loving words and her caresses—and at her touch the fountains of the great deep were broken up. The angry old woman found herself clasping her enemy's daughter to her breast and weeping convulsively.

"I wish I'd had a girl like you!" she cried, desolately. "Maybe if I had it wouldn't have happened. Maybe I'd been more patient and more forgivin'. It's easier for people to be good when they're petted and loved."

The sharp little woman from the Sherman house had shut her own gate behind her with an emphatic click that morning and had resolutely made her way down the lane and across the footbridge, and so along the near road.

She had taken that course almost unconsciously, and she was halfway down the valley before she woke to a realization of the scenes through which she was passing.

Then she perseveringly recalled her grievances, instead of her pleasant memories. She would not be touched by the vines that trailed across the near road and the trees that had fallen and blocked it up. If the near road was in ruins, so was the old past when the Warner's were her friends and she was theirs.

Up the slope the Warner house came into view. Windows and doors were wide open, but there was no sign of anyone stirring.

"Mother!" she heard someone call. Somebody came in by the back way, tramping through the rooms. Mrs. Sherman turned toward a pallid young man, who staggered a little as he advanced, and who gazed at her with eyes that did not appear to see.

"I've slashed my hand with a knife," he murmured. "Do you think you

Men's Suits

Odds and ends and broken lots from the $12.-50, $15, $18 and $20 lines.

Men who've profited by our $10 sales of the past were the first ones to buy in this.

Broad variety yet, and every one a bargain that will give us another clinch on your friendship.

Advance samples of Brokaw Bros., Rogers-Peet and other swell tailors' Fall Suits.

London Clothing Co.
HARRIS & FRANK
117-125 N. SPRING ST.
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I. T. MARTIN Furniture and Carpet House
531-3-5 S. SPRING ST.
The place to buy good Furniture, Carpets, Mattings and Stoves Cheap. 3 x 7 Window Shades 35c.

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Men's Shoes
The only proof of good shoes is the service they give. You get them here—newer in style, better in fit, longer in wear.
MEN'S SHOES—Vici kid or velour calf, lace or congress, welt sole $3.00 pair. Worth $3.50.
MEN'S SHOES—Vici kid, Blucher cut Oxfords, welt sole, stylish last $3.00 pair. Worth $3.50.
Blaney Shoe Co.
456 S. BROADWAY LOS ANGELES

Surf Bathing

Ever try it? The first plunge in the surf makes you catch your breath, but the fun you have after you're in, its indescribable. It's one of the pleasures that can be indulged in every day in the year at Terminal Island. Temperature of water always the same. New bathing suits at the bath house. Private retiring room for ladies. Hotels all open. The

SALT LAKE ROUTE

runs frequent trains and sells commutation tickets.

Information 248 S. Spring St., Los Angeles
Tel. Main 362 and James 8951

E. W. GILLETT, Gen. Pass. Agt.
T. C. PECK, Asst. Gen. Pass. Agt.
Los Angeles, Cal.

could wrap it up? It's been bleeding pretty badly, but,"——

He wavered and would have fallen, but in an instant her arm was about him and she was helping him to the bench.

"You set right down there, David," she cried, " and I'll get you a pillow, so's you can lie down!"

She darted into a well-remembered room and came back with a pillow. "There, now, you lie still. I used to know where M'lindy kept her rags," she muttered. "Yes, here they are, in the same old closet—and if she ain't using the very rag-bag I made her when David was a little boy! To think she didn't throw it away! And I bet I could put my hand on the turpentine bottle with my eyes shut!"

She needed to know where it was, for her eyes were full of tears. But deftly and rapidly she dressed the wounded hand; and then, seeing that David lay still and was very pale, she bathed his face and fanned him with his mother's fan.

"It'll be all right in a day or two, Davy," she said. "The turpentine'll draw the soreness out. Don't you remember when you were little and cut your wrist on a broken bottle over at my house how I fixed it up for you?" and look here! It didn't even leave a scar"——

A little stir behind her made her turn, to see David's mother standing hand in hand with Clara.

"O M'lindy' don't ye be frightened!" she cried. "He ain't hurt much. He'll be over it in a little while."

"There, don't you worry now, M'lindy! It's all over—we're friends again—and I know in reason I must have been to blame. Look here! Davy's coming round all right—and there's Clara laughing and crying all at once—and you ain't got a thing to cry for, M'lindy!"

David was all right an hour or two later, or sufficiently so to escort Mrs. Sherman and her daughter home. But Mr. Sherman, who had been much puzzled by the absence of his family, gaped in apparent bewilderment when his wife and daughter fell to hugging him and talking jubilantly, both at once.

Perhaps he understood, however, more than they told; for there was a shrewd twinkle in his eyes when finally he said:

I calc'late that cut won't lay you up very long, Dave. S'pose you come over Saturday, and we'll take a day off and clean out the near road?"—Youth's Companion.

DISEASE IN DISHCLOTHS.

As you value your own life and that of your family, keep your dishcloths clean. A newspaper paragraph tells us that a foul dishcloth thrown under a kitchen sink brought typhoid fever into a Kentucky family, which took four persons out of it in as many weeks. For a time it was the general belief that the four deaths were "by the visitation of God," but a keen scented nurse set to work to find out some earthly cause for the dreadful scourge, and found it in a "death-dealing dishcloth." The newspaper report of the case tells us that the doctor ordered the vinegar barrels whitewashed and threw forty cents' worth of carbolic acid in the swill pail, and then washed his hands clean of the sad circumstances. The nurse who discovered the seeds of pestilence in that lazar-house took all the "visitation of God" out of the incident by saying that of the dozen of cloths she found when she went into the house not one was free from filth and microbes of which there were enough to poison a regiment of men. The moral to this story is clear. Keep your dishcloths clean.

A paper printed at Kokomo, Indiana, is responsible for the following story:

The wife of a farmer is said to have had a sister come from Chicago to make a visit recently. One day the threshers came and the guest insisted on doing the work alone and sent her sister away for rest. When the hungry threshers filed in to supper that night they found a sandwich tied with ribbon, one chicken croquette, one cheese ball the size of a marble and a button hole bouquet at each plate—nothing more. The men refused to come back for breakfast.

RECIPES.

ORANGE STRAWS.—Save the peel from all the oranges used in the house, putting it into a large bowl of water and keeping it a week—changing the water daily. This takes all the poison out of the peel and leaves it with a delicious flavor. For the peel of six oranges take one pound of granulated sugar and one-half cup of water. Boil until it "hairs;" then add the orange peel which has previously been cut into very thin strips and laid on a clean towel to absorb the water; stir until the sugar hardens all over the little strips of peel, and pour onto a platter. Pick the mass apart before it nardens into a big lump, and you will have something dainty and delicious. These are often served at an afternoon tea.

CHOPPED EGGS.—This is an excellent breakfast dish for children. Chop fine six hard-boiled eggs and grate about an equal amount of stale bread. Put in a dish alternate layers of the eggs and bread, seasoning each layer well with salt, pepper, and bits of butter. When the dish is filled, or the material all used, pour on one pint of boiling milk, seasoned with a couple of pieces of onion. Bake a light brown, and serve hot.

FRIED SALT PORK.—Salt pork sounds like a very common order of diet, but prepared in the following fashion it makes a dish to tempt the appetite of the proverbially bad breakfast eater. Slice good hard pork into a pan, pour on cold water, and let it come to a boil. Unless the pork is very salty, this will freshen it sufficiently. Remove the meat and throw away the water. Make a batter of one beaten egg, two table-spoonsful of milk and one of flour, well beaten together. Dip the pork in the batter and fry it slowly in a little fat in a frying-pan. When this is served hot it makes a most satisfactory breakfast side dish.

BROILED SAUSAGE.—Those who confine their cooking of sausages to tossing them into a frying pan, turning them over a couple of times, and calling them cooked when they are brown on two strips of their surface do not realize the possibilites of food. Suppose the next time you have sausages for breakfast you take off their skin and flatten them to half their thickness. Then put them in a wire broiler and place them over a bright fire until they are done "to a turn." While they are broiling prepare as many slices of carefully browned toast as there are to be persons at the meal. Lay the sausages on the toast and arrange them on a platter with a small lump of butter on each piece. Allow the platter to remain in the oven for a few moments before serving, and you will have a revelation in sausages.

Try cranberries for malaria.
Try a sun bath for rheumatism.
Try clam broth for a weak stomach.
Try cranberry poultice for erysipelas.
Try eating fresh radishes and yellow turnips for gravel.
Try swallowing saliva when troubled with sour stomach.
Try eating onions and horseradish to relieve dropsical swellings.
Try buttermilk for the removal of freckles, tan and outternut stains.
Try the croup tippet when a child is likely to be troubled with croup.
Try hot flannel over the seat of neuralgic pain and renew frequently.
Try taking cod liver oil in tomato catsup if you want to make it palatable.
Try hard cider—a wine glassful 3 times a day—for ague and rheumatism.
Try taking a nap in the afternoon if you are going to be out late in the evening.
Try breathing the fumes of turpentine or carbolic acid to relieve whooping cough.
Try a cloth wrung out from cold water put about the neck at night for a sore throat.
Try walking with your hands behind you if you find yourself becoming bent forward.

In order to prove that she is the greatest cheese-producing State in the world, New York proposes to manufacture a mammoth cheese, weighing two tons, to be exhibited at the St. Louis Exposition next year.

BY ERNEST BRAUNTON, GLENDALE CAL.

THE CALLA LILY AND ITS CULTIVATION.

The "Lily of the Nile" (Richardia Africana, or Ethiopiea), also more popllarly known as the "Calla Lily," is one of our most common and generally cultivated plants for winter flowering.

The horticultural world has known it for nearly two centuries, and, like everything else that is subject to the ever-changing caprices of public opinion, it has had its days of popularity and times of almost contemptuous disfavor.

The sages of all ages tell us that "Nothing dies; 'tis only superseded." The Calla has not been exempt from this rule, but its ubiquity has been persistent. Consigned to disuse time and again, under the glare for a time, of some more popular star, it has patiently withstood popular opinion and the ever-changing, ever-recurring dictates of Dame Fashion.

"The survival of the fittest" is here exemplified. Last Easter saw the flowers in good demand, and they sold at a figure about equal to that of the Easter Lily itself. There are many who still believe that the proper place for the Calla is at the altar steps, or upon the bier of the dead, and so do not welcome the flower for ordinary use.

We do not claim that the Richardia is by any means a fit subject for a table decoration, but when used along with its own leaves it makes a very appropriate embellishment for a hall or stairway and is not out of place in the drawing room.

Until recently Richardias were generally believed to be entirely free from any disease, but along with some of the California product came a scourge which upset many a promising batch. Different growers have their own peculiar ideas regarding the treatment of the Calla, and it survives and flourishes under all of them. But especially does it grow in luxuriant proportions in Southern California where the soil conditions are most favorable to its highest developments.

The yellow Callas are too expensive to be popular as yet, and we question if they will ever fill the place that the white ones have done. They are very beautiful just the same, and the yellow is so pronounced as to show its distinctive color even under artificial light. They need a slightly higher temperature.

Little Gem is a dwarf white which in our opinion, is misnamed—at least we have been unable to find any gem-like qualities in it. There are always enough Little Gems sizes among the general collection; more than are wished for in most cases.

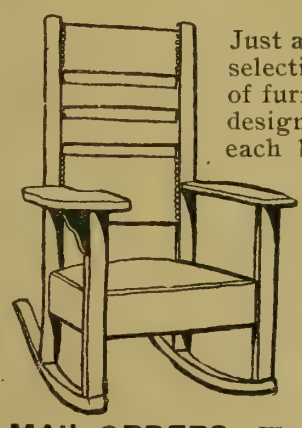
The spotted leaved variety (albomaculata) does well as a house or conservatory plant, and also does nicely around the edge of a pond or fountain, but does not flower so freely as the type.

A recently introduced plant, a hybrid, from the yellow Calla, R. Elliottiana, and the last named was raised in New England, and was fully described in American Gardening for July 19, 1902, by Mr. Orpet. We have not grown it, but understand it is hardy and a fine flowerer, the spatches being a pale yellow. It is shown in the accompanying picture.—J. T. Scott in American Gardening.

The Forestry Association of Northern California is making a vigorous effort to preserve the famous live oak which made that section of the which has made that section of the State so famous.

Dependable Furniture at a Fair Price

CHAIRS
OF EVERY KIND



Just as much attention should be paid to the selection of suitable chairs as any other piece of furniture. Like every thing else they are designed for special uses and particular places, each being built after special designs best suited to them. There is no chair need that we cannot supply. Our stock is very large and comprises every desirable style from the finest parlor and library chair to the old hickory for the lawn or porch. Our chairs are made for service. They are "good chairs."

MAIL ORDERS.—We give all mail orders our most careful attention. If you write plainly just what you want we will ship it to you. We guarantee satisfaction. All prices marked in plain figures.

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STENOGRAPHIC AND CLASSICAL COLLEGE
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Pleasant study in the midst of the most beautiful home-like surroundings. Day and evening sessions. Shorthand made easy by famous "Chalk Talks" by the Principal. Machine at home free of charge. Spanish at lowest rates. Every graduate in a position. Ten teachers. Largest capacity in the city. The Bookkeeping is the famous Budget System. Classical College Preparatory Dept. fits for State University. Send for illustrated Catalogue. FLORIDA BROWNSBERGER, Principal.

Los Angeles Markets.

LOS ANGELES, Sept. 24.

The local markets presented no especial change from last week except a slight advance on eggs. The supply does not equal the demand as yet although dealers appear to think there may be more easiness in the market later.

There is no change in poultry prices from last week's quotations. The demand as usual is beyond the supply. Potatoes remain at about last week's prices and firm.

Hay and grain are about stored. Price firm.

Butter.

B. of T. Creamery, per 2lb roll..		65
Dairy, do		60
Cooking	52½	57

Cheese.

California and 3-lb hand		17
Cal. Downey or Anchor.....		16
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.29	.30
Fresh Eastern	.25	.27
Store, case count	.24	.25

Potatoes.

River		1.25
Salinas		1.65
Local, cwt.		1.00
Sweet potatoes	2.00	2.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, yellow, cwt		1.10
Beets, per 100 lbs	.60	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.50
Chilles, green per lb		.02½
Lettuce, per sack	.25	
Radishes, doz. bunches	.15	

Fruits; Fresh.

White figs, 20 lb box......		.40
Black figs, per doz		.40
Cantaloupes, per doz	.50	2.00
Watermelons, per do....	.50	
Strawberries box, fancy	.06	08
Lemons, per box	.75	1.50
Pears, northern, Bartletts bx.	.04	.60
Local pears Bartletts		.60
Limes, per 100	.90	1.25
Prunes, Hungarian, box 30 lbs		.40
Peaches, per box	.40	.75
Northern apples, 40 lbs		1.25
Four tier belleflower		1.25
Local		.60

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08
Peaches, per box	.40	.75
Peaches, per box	.40	.50
Local belleflower, 30 lbs ...		60
Northern apples, 40 lbs	.50	.75

Poultry.

Spring chickens	.16	.17
Hens, No. 1 per lb	.13½	.14
Ducks, per lb	.11½	12½
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	**4 00**	**5 00**

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa, large bales	10.00	12.00
Corn, Oct. delivery		1.35
Barley	1.04	1.06
Wheat	1.45	1.50
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.60
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75
Chicken wheat		1.65
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, Sept. 23.

There has not been an over active butter market this week, operations being confined to actual requirements, supplies being moderate. The market continued firm at prevailing prices. In the cheaper grades of butter the movement continued firm at uneven prices. Yesterday there were liberal sales of the better grades at the top quotations.

BUTTER—Per lb:

Creamy extras	.31 @32
Creamery, good to fancy	.27 @30
Dairy extras	.25 @26
Dairy choice	.21 @24
Store	.18 @20
California storage	.24 @26
Eastern Creamery	.23 @25

CHEESE—Per lb:

Cal. Creamery, mild new, extra	.14 @15
Cal. Creamery, mild new, choice	.13½@14
Young America	.14 @15½
Eastern, New York Cream, Cheddars and flats, new	.14½@16

Eggs and Poultry.

There is no material change in the condition of the market for Eggs. Receipts of Ranch are moderate and include but a very small quantity of selected whites, which keep entirely cleaned up at the highest quotation. The movement in storage goods continues of large volume and the appearing prices rule firm for available offerings. Yesterday the following quotations ruled on Eggs.

EGGS—Per doz:

Ranch, selected large	.37½@38½
Ranch, good to choice	.32½@37
Store	Nominal
California storage	.25 @27
Eastern	.22 @26

POULTRY—The Poultry market continued steady this week at the prevailing prices and general offerings were well cared for within the quoted range of prices. The demand, however, lacked the buoyancy that was so characteristic last week. Prices ruled yesterday as follows: Old Roosters, per doz, $4.50@5; young Roosters, $5@6; Fryers, $3.50 @4.50; Broilers, large, $3@4; small, $2.50@3; Hens, $4.50@5.50; Ducks, per doz., old, $4@5; young, $5@6; Turkeys, young, per lb., 20@ 23c; Geese, per pair, $1.50@1.75; Goslings, $2@2.50; Pigeons, per doz., young, $1.50@2; do, old, $1.50.

Fruits and Vegetables.

The market for Deciduous fruits has been quieter the past two or three days, with little interest beyond supplying immediate wants. Under liberal offerings of ordinary quality Peaches lower prices were quoted and the market was inclined toward easiness. The top quotations were extremes for the best Fruit on hand and were only obtained in a small way. There were no Strawberry Freestones or highly attractive Yellows offered, otherwise a higher range of prices would have prevailed. Strictly fancy Bartlett Pears were offered sparingly and commanded the improved rate. There was some second crop stock on sale at the lower figure, which met with a fair movement. Prunes were well sustained at former prices. A few Coe's Late Red Plums were received late in the day, but were not sold. There were scant supplies of really fancy apples and top quality offerings ruled firm at the maximum quotatons. Irregular prices continued for the offerings of the cheaper fruit under a slow outward movement. It is reported that Watsonville driers are offering but $4 a ton for the cheaper grades of Apples in that section. As a result of such a low figure it is believed that large lines of this Fruit will be directed to this market, as growers are not inclined to accept such a low rate. Yesterday's offerings of both Quinces and Pomegranates were heavy and the market continued weak, with prices leaning toward easiness. Figs were fairly steady. There was no improvement in the market for Melons and large orders could have been easily filled within the quoted range of prices.

In Citrus Fruits existing conditions showed no important variance and the prevailing prices for the various varieties were maintained with a marked degree of steadiness.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 40@85c; fancy, $1@1.25.

Peaches—Per box, 35@70c; carriers, 50@65c; large open boxes, 65@85c; bulk, per ton, $20 @25.

Pears—Per box, Bartlett, $1.25@1.75; other varieties, per box, 40@85c.

Prunes—Per box or crate, 50@65c.

Figs—Per box, 40c@$1.

Cantaloupes—Per crate, $1.25@2.

Nutmeg Melons—Per box, 50c@$1.

Watermelons—Each, 10@20c.

Table Grapes, per small box, nominal; Seedless, 60@75c; other varieties, 35@60c; crate, 50@75c; Isabella, 60@75c; large box, 60c@$1, as to variety; Wine Grapes, per ton, Zinfandel, $20@26.

Quinces—Per box, 25@60c.

BERRIES—Per chest: Strawberries, Longworth, $5@8; large varieties, $2@6; Blackberries, $2.50@6; Raspberries, $5@8; Huckleberries, per lb., 6@8c.

TROPICAL FRUITS.—Bananas, per bunch, Hawaiian, $1@1.75; Bluefields, ——; Pineapples, per doz., $1.50@3; Dates, Fard, per lb, 7@9c; do, Persian, 6@6½c.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, nominal; Valencias, $1.25@ 2.50; Lemons, $1@3; extra, $3.50;; Grape Fruit, $1.75@2.25; Limes, $8@8.50.

VEGETABLES—Tomatoes, per box, 35@ 65c; Green Peppers, per box, Bell, 30@50c; Chile, 30c@50;; String Beans, per lb., 3@4c; Wax, 3@4c; Lima, per lb., 3@4c; Green Peas, per lb., 2@3c; Egg Plant, per box, 30@50c; Summer Squash, per box, 40@50c; Cucumbers, per box, 40@50c; Garlic, per lb, 2@3c; Green Corn, per sack, $1@1.50; crate, $1.25@1.75; Okra, per box, 35@50c; Marrowfat Squash, per ton, $10@12.50.

ONIONS—Yellow, per ctl., 50@65c.

POTATOES—Per ctl: River Burbanks, 60c @$1; Early Rose, nominal; Salinas Burbanks, $1.25@$1.40; Sweet Potatoes, $1.40.

Operations in the Potato market for local accounts were of good volume yesterday, and as supplies were fully up to trade requirements the prevailing prices ruled steady, with top quality offerings readily bringing the highest figures.

Dried Fruits, Nuts, Etc.

YAGER TWO CULT NONP

Yesterday the market showed keen appreciation of the fact that the holdings of last year's crop are comparatively exhausted and that prices on dried fruits must advance. Interest centers in prunes and prices rule firm. Increased activity is noted in Apricots and the market is firmer and tending upward. Peaches continue in good request and and top quality offerings readily command the maximum rates. Other fruits are firm at quotations and the market is in a good position for the selling interests. Honey is steady at quotations, but the demand is still held within narrow confines.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 5@6c; Sun Dried, ——.

Apricots—Royal, fancy, 9@9½c; choice, 7½ @8½c; Moorparks, choice, 9@11c.

Peaches—Choice, 5½@6½c; fancy, 7@7½c, peeled, in boxes, nominal.

Pears—Choice, 6½@7c; fancy, 8½@9c.

Plums—Pitted, 5@7c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2⅞@3c for Santa Clara; other sections, ½c less.

Nectarines—White, 4@5c.

Figs—White, 4½@5c; Black ——.

NUTS—Per lb: California almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12½c; standard 7@8c; Pecans, 11@12c; Peanuts, nominal; Peanuts, Eastern, 5½@ 6c; do, California, 5@6c; Brazil, 12@13c; Filberts, 11@12c; California Walnuts, soft shells, 12@13c; Hickory, nominal; Chesnuts, Italian, nominal; Cocoanut, $4.50@5 per hundred.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1903 crop, f. o. b. at common shipping points are as follows: Loose Muscatels, 2-crown, 6@6¼c, 3-crown, 6¼@6½c; 4-crown, 6¾@7c.

HONEY—New Comb, per lb., White, 12@ 13c; Light Amber, 11¼@12c; Extracted Water White, 6½c.

Live Stock.

Previous prices for Live Stock are without quotable change and the market presents a steady tone, with current trading of satisfactory volume to the selling interests.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin steers, 6½@7c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 5@5½c, gross weight; heavy, 4¼@4¾c, gross weight.

SHEEP—Per lb.: Fat Wethers, No. 1, 3½ @4c; gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head of 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 140 lbs and over, 5¾@6c; weighing under 130 lbs., 5¼@5½c; weighing 260 to 350 lbs., 5½c; rough heavy, 4½@5c.

Hay and Feed Stuffs:

STRAW—Good to choice, per bale, 45@60c.

FEED CORNMEAL—Choice grades, per ton, $32@33.

HAY—Prices on new Hay, per ton: Wheat, $11@15; Wheat and Oat, $10@13; Oat, $9@ 12.50; Barley, $8.50@11; Clover, $9@10.50; Alfalfa, $9@11.50; Stock, $8@9.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26@28.

BRAN—Per ton, $22@23.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

CRACKED CORN—Choice quality, per ton, $33@34.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@ 4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—New crop: No. 1 shipping, per ctl, $1.40; choice, $1.42½; White Milling, good to choice, $1.45@1.55.

BARLEY—New crop: Choice, No. 1 Feed, $1.07½@1.13; Shipping, $1.15@1.17½; Brewing, No. 1, $1.17½@1.25; Chevalier, $1.35@1.50.

CORN—Good to choice, per ctl: California, new, large yellow, $1.50@1.55; small do, $1.75 @$1.80; White, $1.50@1.55.

RYE—Good to choice, per ctl., $1.25@1.30.

OATS—Feed, good to choice White, $1.22½@ $1.32½; White Milling, $1.32½@1.37½; Red, $1.20@1.32½; Black, nominal at $1.40@1.65.

BEANS AND SEEDS.

Beans were moderately active within quoed range of prices, choice lots selling well up to the higest quotations. In Seeds business continued at a low ebb and the appearing prices were regarded as largely nominal.

BEANS—Price per ctl.: Large Whites, $3@ 3.10; small, do, $3.10@3.25; Pea, 3.25@3.50; Lima, $3.50@3.75; Red, $2.90@3; Pink, $2.75@ 3; Bayo, $2.75@2.90; Blackeyes, $2.60@2.85; Red Kidneys, $3.75@4.

DRIED PEAS—Green, $1.80.

SEEDS—Prices per ctl.: Yellow Mustard, $2.50@3; Trieste, $2.75@3.25; Canary, imported, $5.50; Hemp, $3.50; Flax, $1.75@2, Rape, $1.75@2.50; Timothy, $5.75@6.50; Alfalfa nominal.

Hops.

The price for new crop is 21@25c per lb., according to quality.

Wool.

WOOL—Spring clip, per lb.: California, Humboldt and Mendocino, 18@20c; Northern, 15c@17½c; Foothill choice, 12@15c; fancy, 14 @16c; San Joaquin, ordinary, 9@11c; fancy, 11@13c; Nevada, 12@15c; Valley, Oregon, 15@ 18c.

Eastern Markets.

Grain and Produce.

CHICAGO, Sept. 23.—Wheat opened firm, influenced largely by the bull sentiment carried over from last night, December selling early up to 73¾, but the fine weather, the bearish situation in foreign markets and weakness which finally ruled in the Northwest and at St. Louis induced heavy selling by commission houses and the feeling turned bearish. December went off to 77¾ under the pressure. The absence of export business was a depressing factor, while cables were indifferent at the close. Local traders bought freely, however, on the sharp bulge in corn prices, while wheat was at the low mark and the close showed a portion of the loss regained, but with December still 1¼ under yesterday's final figures, at 77¼@77⅜. Trading was large and active. Corn, after opening at a trifle higher, was dragged down by the weakness in wheat, but later renewed its upward tendency, and the close was ⅛@¼ better for the December option at 47⅝@47¼. Oats showed considerable strength the greater part of the day, in sympathy with corn. December closed ¼@⅜ higher, at 37¾@37⅞. The provision market was also slow. October pork closed 10 lower, lard 15 lower, and ribs 5 lower.

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Grain Movements.

Articles—	Receipts	Shipments.
Flour, barrels	42,200	11,500
Wheat, bushels	283,475	113,600
Corn, "	648,270	465,800
Oats "	281,500	105,900
Rye, "	21,000	2,800
Barley, "	188,800	7,000

On the Produce Exchange today the butter market was firm; creamery, 16@21½; dairy, 14@18½; cheese, strong, 10½@11½; eggs, steady, 18@19.

Chicago Live Stock.

CHICAGO LIVESTOCK MARKET.

CHICAGO, Sept. 23.—Receipts, 17,000 market stronger; good to prime steers, 5.40@6.00; poor to medium, 3.90@5.00; stockers and feeders, 2.40@4.15; cows, 1.40@4.50; heifers, 2.00@5.00; canners, 1.40@2.60; bulls, 2.00@4.75; calves, 3.50@7.40; Texas fed steers, 3.25@4.25; western steers, 3.25@4.50. Hogs—Receipts, today, 24,000; tomorrow, 20,000; market steady, 10c lower; mixed and butchers', 5.75@6.35; good to choice heavy, 6.00@6.30; rough heavy, 5.60@5.90; light, 5.80@6.35; bulk of sales, 5.85@6.10. Sheep—Receipts, 28,000; market steady to weak; good to choice wethers, 3.40@4.00; fair to choice mixed, 2.25@3.25; western sheep, 2.75@4.35; native lambs, 3.75@5.75; western lambs, 3.75@5.50.

California Dried Fruits.

NEW YORK, Sept 23.—The market for evaporated apples was quiet and without material change from the general conditions recently reported. Common, 4@5; prime, 5¼@5¾; choice, 6@6½; fancy, 6¾@7½. Spot prunes are in fair demand and ruled firm at quotations ranging from 3¼ to 7 for all grades. Apricots attract a fair jobbing demand and remain firm at 9¼@9½ for choice; 9¾@10¼ for extra choice, and 10@12 for fancy. Peaches show a firmer tone. Choice are reported at 7¼ and extra choice at 7¾@8¼.

CITRUS MARKETS

ORANGE AND LEMON MARKET.

ORANGE MARKET.—The markets in general have impoved during the week, auction markets showing fair demand and quite satisfactory prices for good stock. Western markets also have been taking fruit at fairly satisfactory prices in limited quantities, particularly cars running to desirable sizes, of which there are but few. Shipments from California are very light and prospects fair for a continuance of good prices.

The lemon market is showing considerable strength on 300s, these sizes selling on an average of about $1.50 per box above 360s in sales of foreign stock in New York. The demand is fair in western markets for desirable sizes and grades, poor quality fruit is not wanted, and there is little demand for small sizes. Central and Eastern markets are calling for 300s and fancy supply. Shipments being very light and choice, the demand [illegible] in this size.

* * * *

Shipments of citrus fruits from Southern California on Tuesday were 3 carloads of oranges and one of lemons. The total shipments for the season, from November 1, 1902, to date, are 22,018 carloads, of which number 2630 carloads were lemons.

AUCTIONS.

NEW YORK, September 16.
Riverside Fr. Ex., Blue Globe Val., $2.95; Red Globe Val., $2.25.

BOSTON, September 16.
Covina Fr. Ex., choice Val., $3.75.
Orchard run Val., $3.15.

PHILADELPHIA, September 16.
Covina Fr. Ex., White C. Val., $2.85.

PITTSBURG, Sept. 16.
Covina Fr. Ex., White C. Val., $2.65.

CLEVELAND, September 16.
C. C. U., Covina, Sapphire Val., $2.70.

CINCINNATI, September 16.
Sunset Fr. Ex., extra choice lemons, $1.85.

NEW YORK, September 17.
C. C. U., Filmore, Flamingo Val., $2.25; Sunrise Val., $1.85; Agalia Sweets, $1.85.

NEW YORK, September 18.
A. C. G. Fr. Ex., Pointer Val., $2.30.

PHILADELPHIA, September 17.
Covina Fr. Ex., Butterfly Val., $2.75.

PITTSBURG, September 17.
A. C. G. Fr. Ex., Pointer Val., $2.55.

CLEVELAND, September 17.
C. C. U., Hemet, Angel Val., $2.

CINCINNATI, September 17.
S. S. Fr. Ex., extra choice Val., $2.40.

NEW YORK, September 21.
A. C. G. Fr. Ex., Stag Val., $5; Pointer Val., $3.

BOSTON, September 21.
Covina Fr. Ex., Red C. Val., $3.40.

PHILADELPHIA, September 17.
C. C. U., East Alhambra, Victory Val., $2.25.

PITTSBURG, September 21.
Riverside Fr. Ex., Blue Globe Val., $3.20; Red Globe Val., $2.60; extra Standard Val., $2.00.

NEW ORLEANS, September 21.
S. A. Fr. Ex., Pet Val., $2.95.

CINCINNATI, September 21.
Covina Fr. Ex., White C. Val., $2.20.

CLEVELAND, September 21.
C. C. U., Hemet, Angel Val., $2.45.

The pulp of the sugar beet is rapidly coming to the front as dairy feed.

Jersey Bulletin: "With the doctors asserting that bread is chiefly valuable as a vehicle for butter, and that the nutriment in 'breakfast cereals' consists largely in the cream which floats them; with the soda fountains dispensing whole milk and "alf-and-'alf' the barkeepers serving less beer and more buttermilk, the dairy cow seems to be having her day."

Jersey Bulletin: Allowing that every cow was first charged with the expenses of her keep, the average net profit per year per cow was $9.96. The gratest profit was $57.22 for an individual cow, and the poorest one lost $17.83. This is the result of an investigation of eight herds of dairy cattle in the state of Illinois.

In an excellent Illinois dairy herd, one of the best in the state, fifteen of the best cows paid for their keep and a profit of $651.94 for the year, and the other thirty-two paid for their keep also and gave a profit of $600.24 for the year. This shows that it pays to keep the best cows if you can find them.

Dakota dairy bulletin says: "Experience has shown that heifers should not be bred until they are from eighteen to twenty months old, and if fed liberally up to this time they will be much larger and much more profitable cows."

Have low perches for large fowls. They save bumble foot.

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SUMMONS.
No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.
(Seal) By C. O. Winters, Deputy Clerk.

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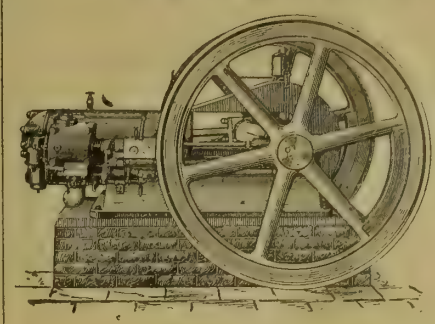

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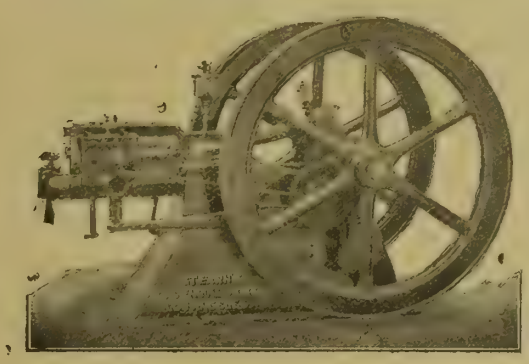

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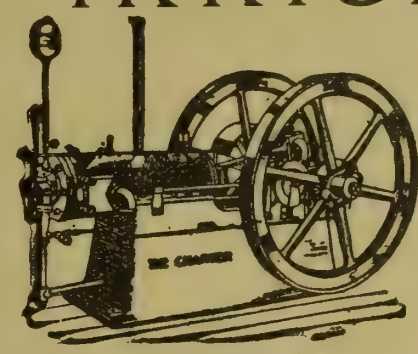

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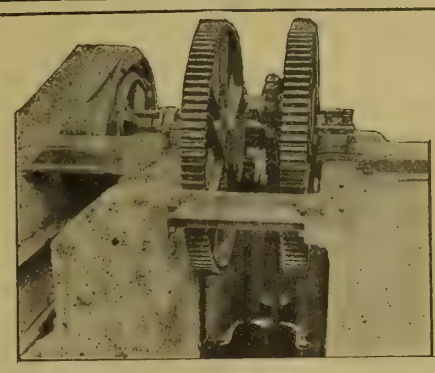

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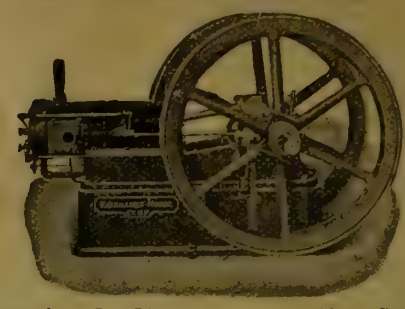

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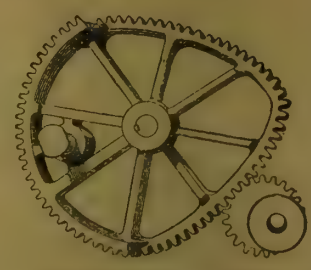

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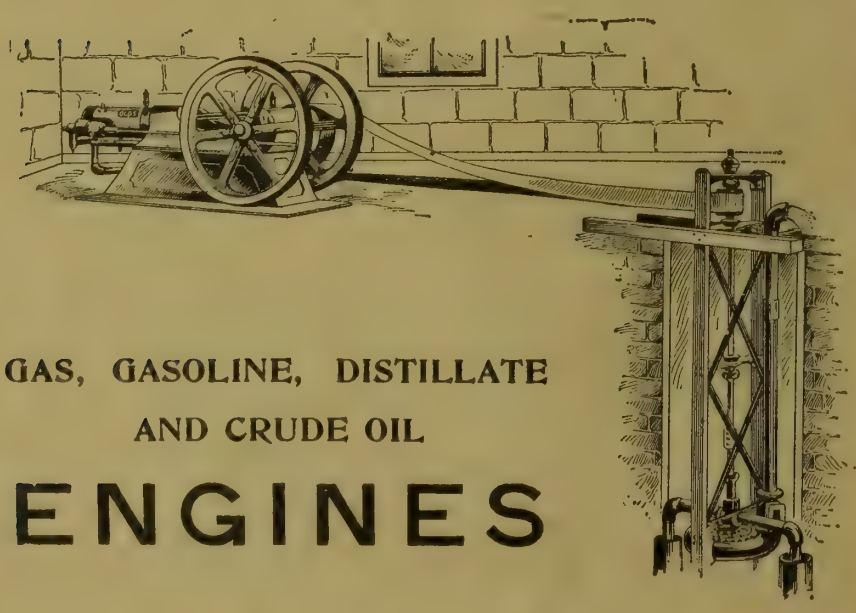

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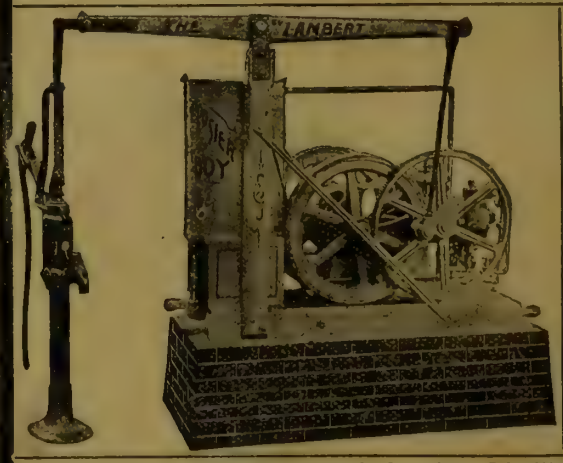

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 14 LOS ANGELES AND SAN FRANCISCO, CAL., FRIDAY, OCTOBER 2, 1903 Subscription $1 a Year

The Walnut---Its Blight and Suggested Remedies

The blight which has attacked the walnut orchards in Southern California has caused much apprehension to growers, and the definite cause of the blight is a subject on which the most experienced orchardists differ. That there is blight on the trees no one will deny, but what causes it is a question those interested in the walnut industry are anxious to have determined.

That the crop failure for 1903 is worse than for many years is a recognized fact, for this season seems to have been fruitful in producing both the blight and non-pollenization conditions, and therefore the results have been marked and widespread. J. B. Neff, one of the largest walnut growers in this part of the state, is of the opinion that the non-pollinization of the walnut blossom by the abundant rains and succeeding dark cold days is largely the cause of the short crop.

George Ware, of Garden Grove, has observed that many more nuts are diseased this year than common and that many more have received the attack right at the blossom end of the nut, rather than on the side. Mr. Ware thinks that the exceeding moisture at the time of blossom was favorable to the work of the germ and thus the exceeding damage of the present year. In this connection Prof. Cook suggests that it might be well to determine whether the Bordeaux would greatly injure the blossoms. In case it is found that it would not it would certainly be wise, he says, to try in case the atmosphere is very moist, this remedy during the blossoming period. Bees do not work on walnut blossoms, and so would not be poisoned. Mr. Ware feels certain that the Bordeaux mixture can be made much more effective by giving wise attention to atmospheric conditions. He says also that his observation is that walnut trees next to the highway, especially if there is much dust, are largely free from the trouble. The dust seems to unfit the nut as a seed bed for this bacillus. This certainly suggests come desirable experiments.

The Professor further suggests: "Would it be possible by use of oil pots and burning oil to cheaply coat the nuts with soot that might entirely prevent the work of the bacilli. In lieu of this, would it be possible, by the aid of the new machinery recommended for dusting trees with poisons, to throw lime or road dust onto the trees at the time of bloom and setting of the nuts so as to hold the bacteria at bay?" Without making any recommendation on this point it is safe to say there is a promising field for experiment along this line.

It will be interesting, in this connection, to compare the yield of walnut orchards in the past four years as indicating the probable truth of the theories advanced by Messrs. Neff and Ware, that the abundant rainfall and cold, dark days destroys pollenization of the nut bloom. We quote here data from a diary kept by Mr. Neff, which he has courteously given the Cultivator. In this report we find that in:

1900 the leaves and catkins began to show on March 22nd. This was also a year of showers until May 11th, and a light crop that year.

In 1901 the leaves and catkins showed on March 19th, but there was only five showery days afterward, with sunshine immediately following the showers, and a full crop of walnuts was gathered.

On April 9th, 1902, walnut leaves and catkins began to show. In this year there were eighteen foggy and cloudy mornings in April, twelve cloudy and foggy mornings in May, and twenty-seven such mornings in June, in all fifty-seven cloudy cold mornings to July first.

Picking Walnuts on J. B. Rea's Ranch, Orange County.

In 1903 the walnut leaves and catkins began to show March 22, and in this month there were seven dark days. In April twelve, in May eighteen, in June twenty-two, in all fifty-nine foggy and cloudy mornings to July 1st. Eleven days are noted between above dates in 1903 as cloudy all day.

In 1902 there were no wholly cloudy days noted during blooming time.

Walnut trees were in bloom two weeks earlier in 1903 than in 1902. In 1903 the heaviest rains of the season came March 24 and 25, March 29 to April 2nd, and April 16 and 17, when the walnuts were in full bloom . There were also showers on 10th and 14th of April, with cool damp weather during the entire time. This evidently destroyed the pollen to a large extent and prevented fertilization, and at the same time made the most favorable weather for development of blight that we have had for at least ten years.

It will appear then, from the above comparison of yearly data for the past four years that when the moisture has been most abundant during the time walnuts were in bloom, pollenization has been least fruitful and the crop less complete. Before closing this branch of the subject it should be remarked that the trees are in fine condition and the fruit buds very abundant and the promise is fine for an abundant yield next season.

Quoting from a papeer read before a farmer's institute some yars since by J. B. Neff of Anaheim, much interesting data on the subject of walnut growing is obtained.

There are three species of walnuts that are of commercial importance in the United States—the black walnut, the butternut or white walnut, and the Persian, commonly called the English walnut. The last named is the only one of any importance in Calfornia, and probably originated in Persia or Asia Minor. From there it spread westward to Rome, and was distributed throughout continental Europe. The walnut was known to the Greeks as the "Persian" nut, or the "Royal" nut, and to the Romans as "Jupiter's Acorn," or the "Nut of the Gods," showing that it has always been held in high esteem. Until the introduction of black walnut wood, very high prices were paid for Persian walnut wood for such articles as gunstocks, and furniture. There are no records to show when walnuts were first planted in Calfornia, but they have no doubt been grown in a small way since the first missions were established.

The range of profitable cultivation of walnuts extends over a comparatively small area, so that there is but little danger of overproduction; and it is scarcely likely that enough walnuts can be produced in California to supply the demand in the United States.

There has been but little trouble to find a market for all the walnuts that have been grown in California; and, with proper methods of marketing and distribution, good prices ought to be realized for all that will be grown that are of good quality.

The poor grade walnuts are used in France for oil making, 100 pounds of walnuts producing about 18 pounds of oil, which is used largely in place of olive oil. No walnut oil in commercial quantities has been made in California.

Walnuts should be planted on land having at least six feet of good soil, not underlaid by hardpan, and where the water does not stand on the surface. There must also be water for irrigation, as walnuts need water at least twice during the summer, and three times would be better, except on land very retentive of moisture.

The trees should not be less than 45 feet apart, and 50 feet apart is better on soil that will make trees grow vigorously. If planted in this way peaches or apricots may be grown between the walnut trees, but such trees should be planted so as to have only the same number of peach or apricot as there are of walnut trees, and all equidistant. Both varieties can usually be grown together ten years, when the walnuts will need all the room, and the others have to be taken out.

In planting walnuts only the very best variety and the strongest trees should be planted, and in order to have the best, as well as a uniform variety, grafted walnuts should be planted. In selecting grafted trees for planting it is not necessary that the tallest trees be taken, as it is preferable to have good roots and a stocky stem. Trees with good roots and strong, one-year old grafts will do much better than older trees that have grown too closely in nursery rows.

Walnut trees do not require the heavy pruning that is needed by most of the deciduous fruit trees. The lower limbs should start at 4 to 5 feet from the ground, and in such a way as to have the heavy side of the tree to the southwest. A good rule for pruning is to cut off only those limbs in the way of the team when cultivating, or that will tend to draw the tree too much toward the northeast or away from the prevailing winds. The young trees should be supported by stakes for the first two or three years.

A walnut orchard that has been well cared for will begin to bear paying crops after the fifth year from planting, and will increase its yield for many years. Walnut trees will live to a very old age in suitable localities. Trees in Spain and in the south of France that are believed to be over 300 years old bear regular crops of 400 to 500 pounds of nuts.

Walnut trees are more free from pests than most orchard trees. The roots are sometimes affected by "root knots," which should be removed when on the main stem of the tree, or on the root crown, and the affected part dampened either with Bordeaux mixture or with a weak solution of sulphate of copper, which will usually prevent a return of this disease. The only other disease has been that known as "walnut bacteriosis," which has caused considerable alarm and which is not fully understood yet. This disease affects only the young wood and the growing nuts before the shells are hard.

There is also a scale known as the "walnut scale," but this does no particular damage, as it infests the large limbs principally.

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
COR. SUTTER AND SANSOME STS. SAN FRANCISCO, CAL.
203 NEW HIGH STREET LOS ANGELES, CAL.

BY CULTIVATOR PUBLISHING CO.

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Friday, Oct. 2, 1903

Circulation this issue 8,800

MUTTERINGS OF DISCONTENT.

The delegates who have returned from the Irrigation Congress are not of the same mind as to the results obtained, nor the good it has done the country. Some of the more practical members complain that the meeting, from a common sense standpoint, was a failure that the time was taken up by a few individuals to air special hobbies greatly to the detirment of the work laid out to be accomplished. Some of the greater newspapers seriously criticise the entire proceedings, and ever that the good accomplished did not repay the expense of time, labor and money paid by the delegates, who traveled thousands of miles, in some instances, to take part in the deliberations of the congress, but were snut out by the very few individuals whose aim seemed to be to advance their personal and political interests. If this criticism is a verity it is well taken. Such a meetng should only be for one purpose, that of advancing by every possible method, the great cause in whose interest it was called. What such a convention needs is intelligent suggestion, terse and well defined opinions, based on experience, as to the best methods of acquiring results at the least expense to the state and general government. It is too bad that so important a congress should not have been provocative of such widespread results, as to create in the public mind an interest in the cause of irrigation, as deep as the subject justly merits. In this particular it is to be regretted that no special interest was created by this irrigation congress. There were but half a dozen papers read, worthy of more than passing notice, the rest were evidently written with a view of self aggrandizement and with little knowledge of the subject presented.

Geo. Y. Coutts of Orange reports the sale of Lady Hiawatha's Pedro to William Schnitger of Garden Grove, through advertising in the Cultivator.

OUR SAN FRANCISCO OFFICE.

The California Cultivator will, in its next issue, be enlarged to twenty-four pages.

The growth of the business necessitates this change. The increased circulation of this paper which is almost to the 9,000 mark, and which by January first will reach 10,000 or more, warrants the enlargement of the paper.

The growth of the Cultivator has been steady and almost phenomenal. Every month it has grown, during the past few years, broadening its territory, enlarging its business, gathering around it a clientage of the most intelligent, progressive and aggressive business men and readers of any paper of like character on the Pacific Coast. We make the assertion, without fear of successful contradiction, that no paper occupying a distinctly farming field, on this coast, has ever attained the success in the same length of time, that has been reached by the California Cultivator. It is no longer a proposition for one section of the state alone. It reaches almost as many readers—actual subscribers—north of the Tehachapi as south of it, and in that territory is rapidly taking the lead as a general newspaper devoted to the interests and industries which are building California into one of the greatest states in the Union. North and south of San Francisco the Cultivator is constantly adding subscribers in large numbers. It has been doing this steadily for the past year.

The management seeing the necessity for business headquarters in San Francisco, has opened an office on the corner of Sutter and Sansome streets in the Paris, London and American bank building, where those interested in anything pertaining to Cultivator matters will find an experienced editor and business representative with whom to transact whatever of moment man concern them.

In its treatment of questions pertaining to California farm, orchard, live stock or other interests, the Cultivator in the future, as in the past, will aim to be fair, honest and intelligent. All conditions which affect the welfare of the people of the state will be candidly discussed, and the effort at all times made to impart only reliable information on the subjects treated in its columns. With the promise of a most prosperous year before the state let every industry be pushed to its fullest capacity, to the end that at its close California may witness the greatest growth in its history .

CENTRAL CALIFORNIA FAIR

The third Annual Central Fair will be held at Hanford, King Co., Oct. 5-10. This is said to be the only Fair this year south of Sacramento and it has promised to give an exhibit of agricultural, horticultural and viticultural products of the central part of the state. The directors. and the Hanford people in general, are putting forth every effort to make this thoroughly representative of their section, and doubtless the orchards, vineyards in radius of that admirable section, will give forth some beautiful fruit as only California can.

N. P. Duncan is President, H. R. Cousin is Managing Secretary, both may be addressed at Hanford.

Annual catalogue for Poultry Foods and Poultry supplies is the title of a very attractive booklet by the A. R. Coulson Co. of Petaluma. It is on a fine grade of paper, has a number of most interesting half tone scenes of some of Petaluma's poultry yards and of the companies establishment, sale rooms, store rooms, etc. In addition, the list of supplies and foods has education as to some of the conveniences which are now prepared for poultry peopIt. One feature which adds to the book,—blank pages for an egg record with blanks for filling in "eggs gathered", "eggs sold", "amount received", "paid for supplies", etc. with spaces for each day in the month. It is a valuable booklet and worth sending for.

OILING THE STREETS.

One of the most annoying drawbacks to Southern California is the summer dust. Up to the time of the introduction of oil there was some excuse for the dust nuisance, for water was not abundant enough to wet the country streets nor could the expense be borne by country people. Now, however, there is no reason why we should longer continue to put up with this nuisance, for it has been shown conclusively that the oiled road is not only the solution to the intolerable summer dust but that it is a success in many other ways, producing pleasure in riding and driving and furnishing, if properly constructed, excellent serviceable roadways for all purposes. Of course the first thing is to put on a good foundation. On this foundation an oiled dressing or top surface is applied. Generally it consists of from two to three inches of thoroughly pulverized soil, impregnated with oil. It is then worked by machines especially devised for the purpose until it is of such a consistency that it will not "buckle" under heavy loads, yet is sufficiently firm to prevent cutting through into the sub-grade, or foundation proper. This dressing, under rolling and traffic, unifies with the foundation, making a firm, elestic and durable surface. When finished it becomes more smooth and firm in proportion to the volume of traffic. Oiled surfaced roads will last without attention from two to four years, the length of the time depending upon the usage. They should, however, be lightly sprinkled with oil annually. The cost of such sprinkling is much less than the cost of labor and teams, aside from the water used in sprinkling. With this inexpensive annual care, the roads improve to a remarkable degree. Each year will find them in better condition than when first finished. The cost of this betterment will not in five years exceed the first cost of oil surfacing, or about 1½ cents a square foot. The oiled surface is infinitely superior to the so-called gravel, which is often little better than mud. After a few years such a surface becomes practically an asphalt . Another advantage is that no weeds can grow on the street. The cost for a forty-foot street, that has been brought to grade, is 60 cents a linear foot, as compared with $1 for gravel or disintegrated granite, and $6 for asphaltum.

In this connection it should be remarked that the practice of oiling only one side of the road is objectionable. The roadway should be made convex, and when prepared for oiling should receive a thorough coat of the oil on the roadway thus prepared. The county supervisors should give this matter more attention than they do and on all the country roads leading out of the cities and towns in Southern California encourage the oiling of the roads.

ALMOST BEULAH LAND.

We do not think as a general rule, Californians talk enough about the advantages the state possesses over the states of the middle west. If we would advertise our conditions more widely, greater results would come to us in the way of desirable immigration. We have a grand country here and we ought to prize it for all it is worth. Charles Dudley Warner in speaking of California said very truly:

"It is land of small farms and gardens, highly cultivated in all the valleys and the foothills, a land therefor of luxuriance and great productiveness, and agreeable houses. It is always interesting it is always picturesque. It is the fairest field for the experiment of a contented community, without any poverty and without excessive wealth."

The latest reports from Europe are to the effect that immigration to this country will be the largest this year in its history. The only drawback to this information is that a horde of benighted foreigners will want to run the government as soon as they land in the country.

Frosts in Nebraska, Iowa and Kansas, tornadoes in Deleware, hurricanes in Florida, cyclones in New York, snow in Montana, and in California, weather so fine that it could not be excelled if ordered especially.

FORTY YEARS OF HONORED TOIL.

Seldom does it fall to the lot of one man to fill a chair in any college for the length of time Martin Kellogg occupied the chair of language in the State University of California. Men, possibly more brilliant than he, have come and gone from the University, but none have left a more enduring monument to their memory than Dr. Kellogg, in whose honor a memorial service was held on Saturday of last week. It is such a memory as any good man, interested in his country's educational and moral growth, may well desire to follow him when his life's work is ended. It is an enduring monument, more to be desired than tablets of stone.

The late President McKinley, in a moment of confidential expression to a friend, once said: "I would rather be the president of any of our great educational institutions, where the future statesmen of my country are made, than to be president of these United States." It is a well-known fact that had he lived to close his political career he greatly desired to close his life work at the head of some great school somewhere in this country.

Truly it is a coveted honor to close one's earthly career as Dr. Kellogg did. To have men and women who were molded into the best citizenship of the State look back with pride and hallowed recollections to the time when and to the man who gave them broadened ideas of life and its responsibilities.

IN THE COMMERCIAL WORLD.

Naught but encouraging reports come from the centers of trade and industry. There were grave fears expressed, up to the close of the present month, that the corn crop in the middle west would be damaged by frost. The cold and inclemment weather of September had a depressing effect upon the nerves of trade and industry and tended for a brief period to slacken the rush of orders to factories for fall and winter stocks. But the month of September went out with but little comparative loss in the corn belt; the most serious effects being in parts of Nebraska, Minnesota and Iowa. But this loss proves not to be as serious as was anticipated, and we are going into the fall trade with most encouraging prospects. The markets remain unchanged generally. Railroad earnings and bank clearings show increased gains and indicate that the country is not anticipating any serious change in present conditions.

Regarding crops, reports show that with the exception of frost in the Middle West there has been a decided improvement. Unless further injured the corn yield will be much in excess of early estimates, and it is now practically assured that the cotton crop will be over a million bales larger than in recent years. Wheat will be below recent years, but still large enough to supply demands for twelve months to come. Conservative estimates place the yield at about 650,000,000 bushels. Of this about 475,000,000 bushels will be required for home consumption, leaving 175,000,000 for export.

So far as Pacific coast industries are concerned no period in years has presented better prospects. Our crops have generally been magnificent, and the demand for California fruits, nuts, and in fact everything raised and produced in the State has been fully equal to the supply. It is of course a little early to attempt a suggestion as to next year's business, but with the rainfall we received last season and the rainfall we have reason to expect this winter a prosperous season in 1904 may be expected.

A representative of the Cultivator now in the Lompoc valley writes that crops of all kinds will be abundant. He says the apple crop will be fully up to the average and is of fine quality. No coddling moth, no worms have so far invaded this territory. Almost every orchardist has all the fruit on his trees they will bear. The corn crop is also reported very fine all through the valley. In short, a season of great prosperity abounds in San Luis Obispo and Santa Barbara counties.

Coast News and Notes

By R. A. Dague, Cor. Sutter and Sansome St., San Francisco

The Alameda grape crop is heavier this year than for several years past.

The U. S. Government has leased ten acres of land in the Livermore valley to be used as an experimental station.

Lou Dillon has met her mate. A few days ago the gelding, Major Delmar, at Yonkers trotted a mile in two minutes.

Almonds are being harvested in Alameda county. The crop is a good one but the quality of the nut is not so good as last year.

The Santa Rosa Republican says: "Every notch the price of hops goes up adds many thousands of dollars to the wealth of this county."

Natural gas of a high quality has been discovered near Ventura. Experts say that a large flow will be obtained fifteen feet below the surface.

Henry Clews, the New York financier, recently said in a circular: "The great bulk of the important crops of the country are safe for this year."

Hop growers in the vicinity of Forestville are offered 25½ cents for this year's hops, but at this writing are generally holding for higher prices.

A remarkable cornstalk from Kings county is on exhibition at the rooms of the California Promotion Committee in San Francisco. It is sixteen feet in length.

Sonoma county is to have a government viticultural station, under the charge of Prof. Haufsman. The chief object is to study the diseases of the vine and propose remedies.

The California Promotion Committee have information that of 4000 persons who passed through Chicago one day quite recently on the colonist excursions, 1000 were bound for California.

The walnut crop in Ventura county is good and the quality fine. Last year the crop in the state amounted to 800 carloads. This year it is estimated at 600—possibly 700. The price will be higher this year than last.

The new co-operative cannery at Healdsburg has finished this season's work, and their entire pack has been sold at good figures. The members of the association are well pleased at the success of their experiment.

The California Dairymen's Union recently held its annual meeting. The profits of the year were $11,000. The new directors are: H. M. LeBaron, president; F. V. Nelson, P. Lognazini, J. Bruner and A. Lognazini.

On the 14th of September the government purchased 300,000 ounces of silver at an average of 57.85 cents per ounce, which will be immediately coined at the San Francisco mint into money to be sent to the Philippines.

A monster raft of 8,000,000 feet of telegraph poles—the largest raft ever built on the Pacific coast—arrived at San Francisco the 22nd of September. It was 750 feet in length and 85 feet wide. It was built at Stella, Washington.

One day this week the steamer Minnetonka took out from San Francisco for New York the largest cargo of wine that ever left that port. It consisted of 10,000 barrels of the product of California vineyards and weighed 7,000 tons.

The latest revised estimates of the California orange crop put the probable output at 28,000 cars. That is about 5,000 cars more than last year. The Florida estimate is 1,500,000 boxes, Jamaica 300,000 boxes and Porto Rico 250,000 boxes.

Steps are being taken by the affiliated colleges of the State University to establish a botanical garden in Golden Gate Park. A five-acre tract will be set out to medicinal plants for the use of students. It will be under the supervision of the pharmacy department.

A large acreage of beans was planted this year in the vicinity of Stockton. The growers are holding for a decided advance in price. They claim that the San Francisco commission houses want beans badly, and must have them, and will pay much more than they are now offering.

The State Fair was a financial success this year for the first time in several years. The profit was about $4000.

The latest estimates of the value of the crops produced this year in the United States is five billions of dollars.

To A. Rhodes of Garland, Utah, was awarded the Havemeyer cup for the best display of sugar beets at the Ogden irrigation convention.

An effort is being made to induce the Petaluma poultry men to organize a co-operative association, patterned after the Santa Rosa association.

The San Leandro Oyster Company, whose beds are located near San Leandro, is preparing to expend $75,000 in improving its wharves, warehouses and other property.

The California fruit distributors report that in the matter of pears they are met in the East by the sharp competition from Oregon, Washington, Idaho, Utah and Colorado.

The Kern County Supervisors have unofficially determined upon a tax rate of $1.60, an increase from $1.40 during the last year. Of this amount 2 cents is levied for the St. Louis Fair exhibit.

J. A. Hornstein of St. Louis, read some literature sent out by the Chamber of Commerce of Sacramento. That induced him to come to California and buy a 1000-acre farm in Sacramento county.

C. F. Packard has sold his fine ranch on the Sacramento for $139,900. The purchasers are the Glenn, Colusa & Yolo Land Company. The farm will be divided into small tracts and put on the market.

The Santa Rosa Poultry Association is still marketing its own eggs, ignoring commission men. It is claimed that the commission men have attempted to palm off on the public cold storage for fresh eggs.

Alameda county has a fund of $20,000 to be expended in advertising the county at the St. Louis Exposition. Among other things shown will be a map 14 by 20 feet prepared by the pupils of the public schools.

The Los Gatos canneries having pretty well finished canning pears and peaches are now running on tomatoes. The tomato campaign will last all through October. Packing, up to this writing, amounts to 75,000 cases.

Klondike's contribution of golden wealth to the outside world will be but little less this year than last. At least $10,000,000 will leave this camp, and the total may run up to $11,000,000. Last year it was between $11,000,000 and $12,000,000.

Articles of incorporation of the Pioneer Fruit Company have been filed in Sacramento. The new company is capitalized at $100,000. Charles B. Bills is president and general manager. He was formerly general manager of the green fruit interests of Porter Bros.

A majority of the wine grapes of Yolo county have been sold to the wineries. They were not organized and were forced to sell. "The buyers are combined," said a Yolo farmer, "and the growers were not." Zinfandels brought $13.50; Sultanas, $12; Muscats, $9, and Tokays $8 per ton.

Consul General Guenther reports that a new plant has been discovered in South America which is destined to supplant the sugar cane and beet. It contains from 20 to 30 per cent more sweet than the cane or beet. It can, in the opinion of the consul, be successfully grown in the soutnern states and in California.

A berry grower of Florin complains that the strawberry growers of his locality made no money this year. The reason was because of bad management and hap-hazard marketing. "What we need is a close corporation and co-operation. We could for less than $3000 put up a cannery that will handle all our berries that cannot be sold to advantage."

The Santa Rosa and Vallejo tanneries have consolidated their interests and have incorporated.

According to the latest advices the world's visible supply of sugar at the present time is 2,170,000 tons.

Onions may be peeled successfully; that is, without causing tears or leaving an odor on the hands, by holding them under a stream of the cold water faucet.

The Ernset Luehning Company, of Suisun, has been packing and shipping dried fruit for four or five weeks past, a large quantity of which is intended for shipment to Germany.

The demand for Woodland Creamery butter in Sacramento is unprecedented. One Sacramento firm writes the creamery and says: "What you want is more milk and we want more butter."

Notwithstanding early frosts, D. W. Snow, national crop statistician, sends out a statement in which he estimates that the United States will, this year, produce 2,000,000,000 bushels of marketable corn.

Grape picking is in progress in Fresno county. There is plenty of help to gather the crop. About 35,000 Chinese and 5,000 Japanese men are at work, besides a large force of other nationalities.

J. L. Byrne, Deputy U. S. Consul at Valencia, Spain, reports that the drought of July and August has reduced the grape crop of that country 25,000 tons below the estimates recently made.

The California Promotion Committee made an effort to induce large landholders in this state to divide up their great farms into 15 and 20 acre tracts and put them on the market. About fifty owners of large farms have consented to it. The committee hopes to induce colonists to come to California and locate on these tracts.

At a recent meeting of the directors of the California Grain Growers' Association, the statement was made that the farmers pay each year about $1,500,000 for grain sacks. This, it was claimed, might be saved to them if they would ship their grain in bulk. It was urged that the growers should provide proper storage facilities.

One of the laws passed by the last legislature is not giving universal satisfaction. It provides that before any sale or transfer of personal property exceeding a specified value can be made, the party who intends to sell must file a notice of his intention with the county recorder five days previous to the date of transfer. The notice must name the purchaser and the consideration.

At the recent Farmers' National Convention held at Niagara Falls, the statement was made that the United States consumes 2,275,746 tons of sugar yearly. Only 500,000 tons are produced at home, as follows: 300,000 cane, 195,000 of beet and 5,000 of maple. President Purse said, if we had proper legislation we could in a few years produce all we consume.

The bean growers of Ventura and Santa Barbara counties are predicting a decided advance in the price of beans, chiefly owing to a shortage of the crop in the San Joaquin valley. Last year there were 35,000 acres planted to beans in San Joaquin county. This year but about 25,000 acres. Last year Lady Washingtons sold for $2 to 2.10. Already this year they are bringing $2.50 to $2.60 and it is predicted they will go much higher.

County Veterinarian Alexander, of Yolo county, reports that he has had his hands full in dealing with anthrax among cattle, but he has vaccinated and quarantined all exposed stock and has the matter well in hand. Dr. Alexander complains that his work has been made more difficult than it should have been because owners of cattle would generally not report the disease in their herds, and many failed to burn the dead carcases of those that died.

A Sardine cannery has been established at Monterey. It is claimed that 150,000 one pound cans will be packed.

E Olmstead of the National Department of Agriculture, has come to this state from Washington and will cooperate with California in the selecting of forest reserves. $30,000 will be expended in the work, the state and general goverment sharing equally in the expenditure.

The promoters of the Independent Packing Co., the incorporation of which was noted in the Cultivator a few weeks ago, recently met in Kansas City, Mo., and finished their organization. The company is capitalized at $5,000,000. They propose to fight the Meat and Cattle Trust.

The Agricultural club of the University of California at a recent election chose its following officers: President, Andrew Vekander; vice president, Miss Myrtle Cromwell; secretry, J Hall; treasurer, Ellerslie Luther. A series of addresses is being arranged to be given by specialists on agricultrual subjects.

The Earl Fruit Company recently shipped a carload of Pajaro Red Pearmain apples to Australia. Prof. Clarke fumigated thirty boxes of the fruit with hydrocyanic acid as an experiment. The object was to destroy any codling moth eggs that might be on the apples. Each apple was wiped with a cloth to remove all substances that might be clinging to it from spraying, then each apple was wrapped in parchment.

Prof. Gifford Pinchot, head of the Forestry Bureau, has been lecturing to the students of the State University. He has corrected some current mistakes. The intention of the government is not to preserve large tracts of land and keep them idle, but the object is to increase the yield of timber and to improve and make permanent the water supplies and to preserve the grazing lands. Everthing is to be made useful.

The California Promotion Committee has been reorganized. Hereafter the following named organizations will have one representative each on the Committee, viz, the Chamber of Commerce, Merchants Association Exchange, Manufactures, Producers Assocation, City Board of Trade and State Board of Trade. The City of San Francisco will have one respresentative at large. In addition to the above, there will be an advisory committee consisting of the Governor, representative of the various Railroad organizations and commercial organizations outside of San Francisco.

Alexander Craw, Deputy Horticultural Commisioner, recently sent a colony of Scutellista to W. E. Hughes of Los Angeles county for distribution. Mr. Hughes writes to Mr. Craw that in visiting the orchard of Scott Chapman he found a considerable quantity of Scutellista there in three stages—grub, pupa and fly, doing good work. They had evidently come from an orchard half a mile distant where the insect was placed a year ago. Mr. Hughes is very enthusiastic over the work they are doing, and will do. We advise all orchardists in the state to send to Commissioner Craw for the Scutellista.

The co-operative idea is rapidly gaining among producers in this state. President A. R. Sprague, of the California Fruit Exchange, authorizes the Cultivator to say that he will be glad to furnish desired information to farmers, or other producers, either by printed matter or by oral lectures, as to the benefits of systematic co-operation. Those contemplating action along that line would do well to correspond with Mr. Sprague. His address is Sacramento. The California Fruit Exchange is well established. It has agencies in all the principal eastern cities for the sale of dried fruits under the supervision of W. C. Walker. The association of which Prof. Sprague is president handles both dried and green fruits and their business transactions are of large magnitude. All the transactions of the company are conducted openly. The profits are divided up, pro rata, among its members. There are few men in this state so thoroughly informed on the benefits of co-operation as Mr. Sprague.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

We will remember that the Crustacean class of Arthropoda all breathe water and thus are all aquatic. A few, however, like the common sow bug, get enough moisture under boards and so are really terrestrial. All myriapods breathe air and are always terrestrial. Almost all of the spider class, or Arachnoids, live upon the land, though a few spiders are found in water. It is curious that air breathing animals can live under the water. These aquatic spiders could not do so except that they spin a sort of silken diving bell which enable them to imprison and carry air to considerable depths in the water and thus they can remain submerged for quite long periods. As we noted, many of the lacewings are aquatic as larva and pupa, though most of them are entirely land insects in all stages. So far as I know, the locust order of insects are wholly confined to the land.

* * *

Order Hemiptera.—To this order belong all the bugs, plant lice and scale insects, as well as the parasitic lice. It would be well if we confined the term bug wholly to insects of this order. Unfortunately the word "bug" is generally used as a synonym of insect. It would be better to confine the name to this order and use the term lacewings, locusts, beetles, etc., in referring to insects of other orders. The hemiptera are very diverse in their habits. Many suck the juice from leaves, others from fruits and branches, others from underground roots, while not a few suck the blood of other insects or from animals of higher groups. Even man himself must support some of these insects, as the bed bug and some of the parasitic lice obtain their entire nourishment from the human body.

We remember that the orders are characterized by peculiarities of wing, mouth parts and transformations. In all typical bugs, the front wings are very thick at the base so they appear to have only half wings. This led Linnaeus to give the name Hemaiptera, which word means half wing. Their wings are the same throughout and all four wings are much the same. Upon these differences are established two sub-orders, Homoptera and Herteroptera. In the Homoptera as represented by plant lice, cicada and many leaf hoppers, the four wings are all alike, and the front wings the same throughout. In the Herteroptera, as seen in the squash bugs and chinch bugs, we have the typical hemiterous wings; that is, the base is thickened. Not a few of the hemiptera in both suborders are entirely wingless or apterous as it is termed. The wingless plant lice is a familiar example in the first suborder, while the bed bug is, fortunately, a much less well known illustration of the second.

The mouth parts of bugs are much modified and are always fitted for sucking. We find present the labrum or upper lip, first pair of jaws or mandibles, the second pair of jaws or maxillae and the larger grooved labium or under lip. The first of these is usually short and needle like, the next four are long slender and needle like, while the labium or under lip is larger and grooved. This groove is covered above by the close proximation of other parts thus forming a tube for sucking. When the bug wishes to suck blood or pump the sap, it moves the mandibles and maxillae back and forth when their fine points pierce the animals or plant and as the blood or sap exudes, it is sucked up by this vital force pump. It will be seen by the above that there are no palpi at all in this order. Thus if we find an insect without palpi, we are sure that it is a bug. This leads us to note the importance of even rather small organs as these jointed palpi are frequently so small that they cannot be well studied without a glass. I think there are no insects so well fitted to pierce and suck as are the insects of this order. We are prepared for this statement when we remember that the terrible chinch bug of the Middle West and the baneful scale insects and plant lice of our own state belong to this group.

The transformations in this group are like those in the lace-wings and locust orders, incomplete. We remember that in such cases the word nymph is given to larvae and pupae alike. Every one has observed that the little bug is essentially a bug and would be recognized as such by the veriest novice. The larvae as usual in such cases has no wings at all; the pupae has stubs of wings or wings but partially developed, while the mature insect, except in a few cases where they are wingless, has fully developed wings, and is able to fly for long distances if needs be, in search of food.

From what I have said above, it is readily conjectured that we have both friends and enemies among the hemiptera. Many bugs are predacious and by sucking the blood and life out of other insects do us great good. Others, and I think a good many more, live upon plants and in some cases, as illustrated in the famous chinch bug of Illinois and adjacent states, are hardly surpassed by any other insect in the terrible mischief which they perpetrate.

Most of the bugs live on the land, though there are quite a number of families of the Herteroptera or true bugs that live in the water, in which case they feed either upon other insects or upon aquatic plants.

* * *

Parasitica.—Comstock makes a third sub-order of hemiptera in which he places the parasitic lice. These are the bugs which prey upon our domestic animals and even man himself and are always an egregious plague. They differ from all the other bugs in being wingless and from all in having an unjointed beak. That is, their beak is in form like a lead pencil, while all other bugs have a jointed beak, and thus resemble very much the human finger, especially as there are very often three joints as in the finger, although in some cases there is an additional joint.

As is well known these parasitic lice are terribly irritating, either to man or beast. Civilization, care and a fine tooth comb, have reduced their number as parasites to human beings very greatly in the last fifty years. Careful, provident farmers have done the same for our live stock, though I must say that much more needs doing in this same direction. Especially do poultry suffer from the incursion of these irritating suckers. Other and larger domestic animals suffer less generally but not a little from other species of these pestiferous lice.

The remedy for poultry lice is frequent white washing of the house, thorough spraying with kerosene emulsion, and best of all rubbing the roost poles, and smearing the chickens after they have gained the roost at nightfall along the thighs, breast and under the wings with an anointment made of kerosene and lard, half and half. This should be kept right in the poultry house that it may always be handy, should be kept closely covered and may be applied without discomfort by use of a glove ever kept in readiness for this purpose.

Thoroughly washing with a strong decoction of tobacco will rid horses and cattle of these living plagues. The scattered hairs of hogs make it easier to apply the tobacco decoction to these animals by use of a good syringe or force pump. Mercy as well as economy dictates that we should never allow our poultry or other domestic animals to be worried by these pernicious lice.

It will be remembered that I gave the same remedy—kerosene and lard—for chicken mites. In case a hen is brooding chickens this should not be used, as it will injure the young. It should have been used previously so that when the brood come there could be no vermin on the mother hen. In case of neglect insect powder should be used.

* * *

INSTITUTE REPORTS.

It will be remembered that at several of our Farmers' Clubs Institutes, the matter of a full report published for distribution has been discussed and in every case recommended. At the Seaside Institute at Long Beach, the matter was again brought up and a resolution passed urging that measures be taken if at all practicable, to secure such a report. A letter from one of the prominent fruit growers commenting upon recent false reports of institute proceedings emphasizes again very strongly the need of an official report. He rightly suggests that such meaty papers as were presented and discussed at Long Beach are far too valuable not to have wide distribution. He says that no pains should be spared whereby these proceedings, especially of the two annual institutes—Farmers' Clubs' and Seaside—shall be fully and accurately reported and widely distributed.

I have no doubt that many of our readers have received and read with great pleasure and profit the excellent report of the State Horticultural meeting held last spring in Los Angeles Surely if any one were in doubt of the wisdom of such publication, the reading of this splendid report would convince them.

It has generally been urged when this matter was up for discussion that a shorthand reporter be secured and thus a verbatim report be provided for. I do not believe this is wise. I have known it to be tried several times, only to be given up. There is so much taken down that is not worth publishing that the work of editing as well as that of writing out the shorthand notes is alarmingly great, and suggests a different method so strongly that in many cases as I know personally, the shorthand report gives way to a long hand report. This latter, if in competent hands, will be just as valuable as the other and will be made at far less labor and cost. I believe that I have the solution to this problem: Secure some expert in agricultural matters who is a ready reporter to take a long hand report, and carefully write it out in type-written copy. Then submit this to a committee of three to revise before it is offered for publication. I would gladly undertake to be one of the three. If the other two were wisely selected, I believe we might get the entire meat of the meeting in succinct form and at minimum expense, and I believe it would give general satisfaction. I believe we must, in some way, secure such report and such publication, especially of the Seaside and Farmers' Clubs' Institutes.

I have communicated with the authorities at the University and they do not see their way clear to undertake this work. They say, very rightly, that if they make a report of one, they ought to of all the institutes. This is clearly impractical and thus they dismiss the whole matter without action. I shall take pleasure in urging the plan just mapped out before the authorities at the University hoping that they may see some way to accomplish this very desirable and much wished publication. In case I fail, then we must fall back on our clubs. The writer of the above mentioned letter is an esteemed member of one of our most wideawake Farmers' Clubs. He writes that their club will gladly furnish their part of the expense. I have no doubt other clubs will do so if it is found necessary. In the meantime I will cast about hoping to find the right man and some cheap way to carry this program into effect. I shall be very thankful for suggestions from anyone regarding the matter.

* * *

GREEN MANURIAL CROP.

The fact that now is the time to sow a green crop for fertilizing the orchard and the tremendous importance of such action, together with a letter of inquiry from Mr. J. H. Bundholt, Los Angeles, leads me again to broach this matter. This is none too early to plant the crop. We must plant to get full growth by February, for by that time we must plow under. I would plant peas. If no more thrifty variety can be secured, then plant Canadian field peas, for they grow very rapidly. Mr. Dreher finds some of the varieties sold in our markets here very thrifty. We have only to remember that we wish a very vigorous variety. Mr. Dreher thinks twenty pounds to the acre the right quantity to plant. He plants three double rows between two rows of trees and put fertilizer a little deeper than the trees are planted between these two rows of each row. He plants them in drills and not very deep. This makes it easy to irrigate in case the rains are not sufficient. This early rain that we are getting now is very favorable to this work. In case peas have not grown before on the same land it will more than pay to go to some garden where peas have been grown continuously and take a little of the soil and sow on to the orchard where we are to put the peas. In this way we secure the needed bacteria and will be sure of a more satisfactory growth. Mr. B. thinks of putting on stable manure before planting the peas. I doubt if this is wise. The peas will give all the humus and nitrogen required and if a little treated bone meal is drilled in as Mr. Dreher recommends this will be all sufficient. I am very glad to note that people are becoming generally interested in this subject. I doubt if any one thing is more important than this.

* * *

CARPET BEETLE AGAIN.

Mr. McA., Carpinteria, sends me some insects that are working on the carpet, wishes to know what they are and asks for a remedy. This is another of the carpet beetle larvae, spoken of last week. It is Anthrenus srophulariae, and is becoming all too common in Southern California. The small larvae can easily be told by anyone, as it is ringed with brown and lighter color and bears long hairs on its body. As I gave quite fully the remedy quite recently I need not refer to that again.

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California Horticulturally

JOHN ISAAC, SACRAMENTO

A MOVABLE STATE FAIR.

We believe that under the law it is necessary to hold the State Fair annually in Sacramento. The result of this has been to make this annual state show very largely a Sacramento fair, or at least a Northern California institution. It is true that Sacramento, as a rule, is willing to subordinate her interests to her sister counties and that the northern counties do not feel an exclusive owership of it, but still the feeling exists that it belongs to Sacramento. This has a weakening effect upon what might make a most excellent state institution instead of a mere provincial show. At the late fair no county south of San Joaquin was represented. California covers so much territory that it is difficult to get all parts together in a general exhibit, and at the same time it is not to be denied that there is a sectional jealousy that sometimes militates against us doing our best. In view of these facts the law should be so amended as to allow the state fair to be held in different parts of the state in different years or at least to provide for holding it in the north and south alternate years. A movement of this kind we believe would cause the fairs to be vastly more popular than they now are and accomplish the objects for which they were brought into existence. When the State Agricultural Society was first organized the section around and within easy reach of Sacramento was the principal, and almost the only agricultural section of the state, and establishing the State Fair at that point was then the wisest thing that could have been done, but since then the state has grown and Sacramento is now a long way from the agricultural and horticultural center. The annual fair is a good institution and it should represent the whole state and a wider interest should be taken in it.

* * *

THE SLUMP IN WINE GRAPES.

Growers of wine grapes in the northern counties are very much exercised over the depressed condition of the grape market. For several years past there has been a steady advance in the price of wine grapes and there was no good reason to expect a slump this season. There has been no reduction in wine prices and the demand for good California wines show no signs of abatement and the only reason the growers can see for this depression on the part of the wine men is that they have the power and are using it to their own advantage. With the grapes ripe upon the vines and ready for the vintage it is too late for the growers to combine or to provide for working up the crop in their own wineries, and the alternative presented to them is to accept the price offered or lose their crop. The wine makers claim that their cellars and cooperage are now filled to their capacity, and that to handle the very large vintage of the present year will entail a large outlay on their part and this upon an uncertain future market. It is also claimed that the high prices prevailing for grapes for years past have given an enormous stimulus for planting and that when the new vines come into bearing, as many will do next season, there will be a very great overproduction of wine grapes and a very probable lowering in the price for wines, and the winemakers are beginning to hedge, hoping to dispose of the very large stock they are now carrying before the depression comes. Whatever justice there may be in the claims of the winemakers, the putting down of prices will unquestionably have the effect of stopping the extensive planting of wine grapes which has been going on in the San Joaquin and Sacramento valley counties for several years past, and while it may work a hardship at the present, may be the means of preventing the uprooting of hundreds of acres of vines in the future and the ruin of the industry, for there is little question but, if the rate of planting which has prevailed during the past three years, and especially last season, is kept up, the production of wine grapes would soon be so great that they would not pay for the picking.

* * *

PRUNES AND PRUNE PRICES.

The prune curing season is now at its height all over the northern part of the state, and the outlook favors a fair average crop. The Santa Clara section which produces a very large percentage of the total crop will fall below, but outside, the crop is generally up to the normal, while the new acreage coming in will largely compensate for Santa Clara's shortage, although it is probable that he output will be somewhat less than in former years. The prune growers of Santa Clara have declared for 3¼ cents for the four sizes, and whether they get it or not will depend largely upon themselves. The European crop is short and there will be a demand for California's fruit from that quarter, there is no very large carry over stock of last season's prunes on hand, and this year's fruit is exceptionally fine. Altogether there is no reason why the prune men should not receive 3¼ cents for their fruit. Unfortunately, they are disorganized. There is no unity of action among them and speculators may find it easy to break the market.

* * *

GOOD DECIDUOUS FRUIT SEASON.

Deciduous fruit shipments from the northern counties, while considerably in excess of those of last season, have not reached the volume that was anticipated early in the season. As a compensation for this disappointment, however, prices have ruled so much higher that growers will be much better off. Red ink has played a very small part in the fresh fruit transactions this summer, very few cars having been sold that do not return a fair profit, and many have made some very excellent returns to the grower. This favorable report is very largely due to the working together of the growers through the California Fruit Distributors, who have kept in touch with the Eastern market keeping all points well supplied, but carefully avoiding the glutting of any. The results of this season's fresh fruit shipments are another lesson on the advantage of cooperation.

* * *

ABOUT WEEDS.

The Customs authorities at Washington some time since were very much put to it to decide what a currant was. Whether what we call currants were currants or dried grapes. Extensive correspondence was carried on, expert testimony taken, evidence on all sides heard, and finally we believe it was decided that a currant was a dried grape. Now, if a committee was appointed to decide upon what constitutes a weed, they would probably have a much harder task and likely break up in confusion and leave the world more in the dark than ever. Dirt has been defined as "matter out of place," and the same definition may be applied to a weed, that is, "a plant out of place," something for which we have no immediate use, but which, with the perversity inherent in many inanimate things, persists in remaining with us. The same plants are not always weeds. The dandelion of our boyhood, for instance, which, with aching back and sore fingers, we were obliged to weed out of the onion bed, has become a respectable vegetable, while the Lantana, a choice flowering shrub in all our door yards, is such a pesky weed in Hawaii that Prof. Koebele is searching for some destructive insect which will eat it out of existence. Very many cultivated plants, too, when abandoned, become troublesome weeds, as the horehound, which was introduced into San Bernardino in the herb garden of a thrifty old lady in the early fifties, and has since spread all over the state, or the teazle, which was introduced to supply the woolen mills in early days and has since got away and shown its ability to take care of itself and trouble the farmer in some parts of the state. Johnson grass is another example of a plant which was considered beneficial (and is under some conditions), becoming a weed, and this is such a serious pest that the last Legislature passed a law against it, while the man who introduced it is now in the penitentiary—not for introducing it, however. So much for weeds. Now, how shall we get rid of them? I have read all sorts of chemical formulas for killing weeds, but the trouble is these also

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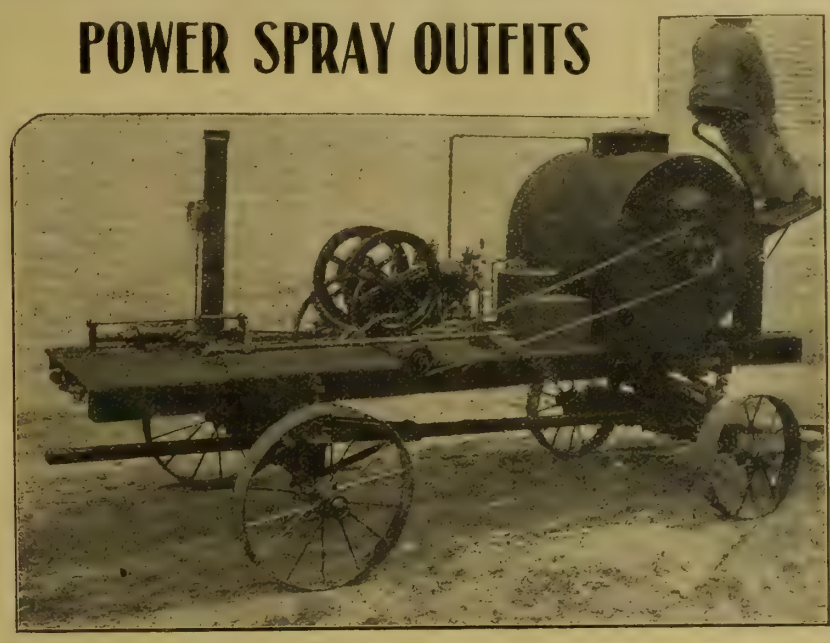

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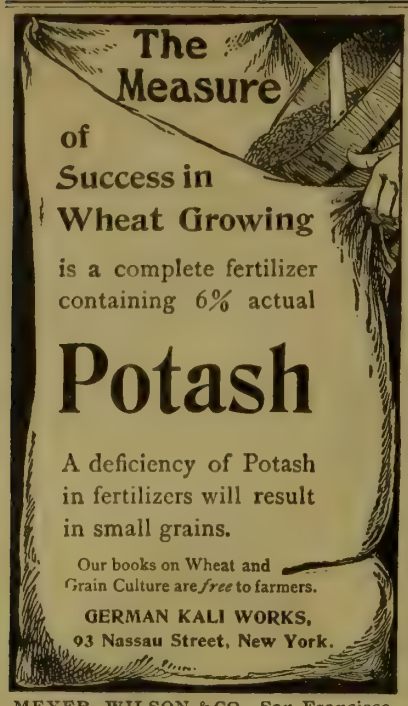

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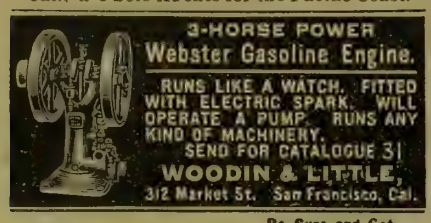

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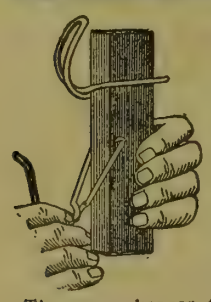

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kill everything else. Probably the best way, and the one that I have always found the best, is with the cultivator and hoe.

DECIDUOUS FRUITS

By J. W. MILLS, Ontario, Cal.

AUTHORITY ON FERTILIZERS.

Editor Cultivator: Will you please give me the name of the best standard works on commercial fertilizers, and fertilizing small fruits and truck gardening?—S. H. Lessley, Fortuna, Cal.

We do not think that there is any satisfactory book printed that deals with commercial fertilizers applicable to California conditions. We never heard of any and do not know where the experience has justified such a work. If you want the very latest that has been published on that or any other subject, write to R. Friedlander & Son, 11 Carlstrasse, Berlin, (N. W.), Germany. It is a long way to send after a book, but that firm will have the latest of anything in the book line and you will get returns as soon or sooner than from any other source, and what you get will be what you ask for.

If you want to get a set of good hand books on small fruits and fertilizers, write to Prof. L. H. Bailey, Ithica, N. Y., for his books on "Bush Fruits," and one on "Fertilizers." The two books will cost about $2.50 and they are written from an eastern standpoint. Prof. Bailey also has a book which he may not yet have published but has arranged for, that should be of interest to you. It is "Leguminous Plants and Nitrogen-Gathering," by Prof. E. W. Hilgard.

* * *

A SEEDLING PEACH.

Editor Cultivator: I send you a peach of which I have a number of trees in an orchard that I bought a short time ago. I would like to know what kind of peach it is and what is the best use to make of it. The trees bore very heavy this year and are too small for my trade or would try them. Also, will you please tell me who I shall send samples of soil to to have them analyzed?—N. D. K., Banning.

The peach you sent is evidently a seedling and a very poor one at that. The only thing that you can do with trees that produce such fruit, is to bud or graft them over to some other variety provided the trees are strong and healthy. If they are old or diseased in any way, we would advise you to dig them out. There is not as much profit as we sometimes wish with the best varieties and with the kind you send, there would surely be no profit.

As you are a shipper of fruits, we advise you to graft them over to a good drying peach or shipping plum. Kelsey and Wickson plums do well on peach and they are usually profitable as shippers. Wickson comes in and is gone before Kelsey is ripe enough to ship. The former ripens up well on the road and at the same time develops a good color. Kelsey will not color en route. Good drying peaches are Lovell and Muir.

If you want to have soil analyzed by the agricultural department at Berkeley, drop them a postal card requesting printed directions for taking samples for that purpose. They will be sent to you and by following the directions sent you, you will come out all right.

* * *

ROCK PHOSPHATE.

Editor Cultivator: I have an orange grove at Highgrove, where for the past three winters I have planted and plowed under a green crop, I think a phosphate would be beneficial to the soil and am desirous to learn all possible concerning rock phosphates, where it can be bought and in what condition it comes, if it is drilled in or sown broadcast and also your opinion of it. I would consider it a favor if you would give me all the details obtainable and oblige a subscriber.—A. W., Long Beach.

Phosphate powder or rock phosphate, is the product of the earth and is found in what is known as phosphorite and also apatite, two combinations of minerals. They are ground and sold as fertilizers. There is also a slag phosphate that is a by-product of iron furnaces. This usually goes under the name of Thomas Phosphate. It is a very heavy material, perhaps heavier than sand, bulk for bulk. It comes from the slag or refuse that floats off of molten iron as a scum. This is ground into an impalpable powder and put on the market as a fertilizer. It has been used by careful men as a source of phosphoric acid in fertilizer of orange trees and usually with unsatisfactory results. It has its place though, an dhas given excellent results when used on naturally damp and sour land. In such places, it is much more effective than bone meal or super phosphate that we buy in the market. In such cases, the good results are generally attributed to the form of phosphate, but as slag phosphate contains about 50 per cent. of lime, it would seem that the lime had some effect on soils that are damp and sour and ardent advocates of the material are apt to attribute such effects to the phosphate. On naturally dry soils. Thomas Phosphate has not given very good satisfaction. Superphosphate, that made from bone and sulphuric acid, contains from 12 to 25 per cent. of water soluble phosphoric acid. This gradually becomes reverted to the form of bone we are told by authorities, unless taken up very soon by the plants. Rock and slag phosphate must be taken up by the plants as crude material, the acids that are given off by the root hairs dissolving it as needed. The advantages of the superphosphate over the others, is, that it is soluble in water and is taken down and distributed among the roots and part of it is taken in by the roots immediately while that which is reverted is more evenly distributed and

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500,000 plants of all the leading varieties, GROWN FROM PEDIGREE STOCK. Interested parties invited to visit our place and see Brandywine and Belts in full bearing.

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in a much finer condition than it is possible to place the ground rock or slag. The two latter forms of phosphate can only be disseminated through the soil mechanically, by means of tools, which necessarily means shallow and uneven distribution. There is perhaps a small amount of phosphoric acid that can be assimilated from them, but it has not shown such effects on our Southern California orange groves. As stated above, the case seems to be different with land which is naturally moist and somewhat acid. These conditions no doubt unlock some of the phosphoric acid. The fact that part of the acid contained in the superphosphate (or acid phosphate as it is sometimes called) is reverted back to water insoluble phosphate, would suggest to us that it should be applied in small doses and often as we may think that the trees need it. If we apply 200 pounds of superphosphate per acre and 50 per cent. of it is lost by reversion, there may be some method in applying but half that amount, but if the lime in the soil requires the 100 pounds per acre to become exhausted in reverting the phosphate, then the 200 pounds would be the proper amount to apply. You can see by this, how hard it is to get at the facts and requirements regarding the fertilizing of our soils. We might experiment and work out from results obtained by the crops, a fertilizing scheme that would satisfy curselves on our own land, but the same schedule might be entirely wr[illegible] for land a short distance away. The only iron clad rule for applying fertilizers, must be made up of experiments which prove that certain defects are caused by the lack of certain elements or groups of elements in the soil. There may be numerous manifestations due to the lack of one thing, but until these unsolved problems are worked out, we must confess our inability to give unqualified advice on the subject. Rock phosphate may be bought through any of the fertilizer companies.

ALFALFA FARM FOR SALE—

40 acres, (18 in alfalfa) well improved, three flowing wells with good pumping plant, almost new, with 500 feet of 6-inch irrigating pipe. Windmill with 2,500 gal. tank. Large barn, four-room house, all fenced and cross-fenced. Located one mile west of Hynes, 12 miles from Los Angeles. Price, $5,000.

J. W. GAINES, Hynes, Cal.

SUMMONS.

No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.

By C. O. Winters, Deputy Clerk.

SUMMONS.

No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.

(Seal) By C. O. Winters, Deputy Clerk.

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

GREEN MILK

Editor Cultivator:- I have a cow which seems perfectly healthy, but gives milk of a greenish cast. The milk looks very much like whey and has a rich cream on it. We have been feeding the cow on pears and wheat hay, and turning her out on pasture during the day.

The cow has been milking for six months but the green milk has not appeared until the last three milkings (1½ days). The milk has no lumps in it and the cream looks allright. W. M. K. Willits.

This condition is due to chromogenic or color-producing germs that have in some way gotten access to your milk containers or where the milk is kept. Throughly boil every container and change the place of keeping the milk. Fault is not with the cow.

GARGET

Editor Cultivator:- I have a four year old cow which has one section of udder caked and spoiled. She gives no milk out of that section, but occasionally I can force out puss about the size of a bean, can I do anything to bring it right next calving, which will be the first of December. Please answer through the Cultivator.

A Subscriber.

The probabilities are that the milk secreting power of that quarter is permanently lost.

UMBELICAL HERNIA

Editor Cultivator:- Will you please say through the Cultivator what I should do for a mare colt about six months old that has a soft lump on the seam of the belly about a foot from the bag the size of a goose egg. It came on about a week after she was foaled. It looks something like a rupture. W. J. W. Riverside.

Clipp off the hair and apply strong nitric acid with a glass rod in strips down the enlargement about ½ inch apart taking care not to let the strips cross each other.

WEATHER AND CROPS.

Director McAdie sums up the weather and crop conditions for the past week as follows:

Clear, warm weather prevailed during the week in the interior and cooler weather with fogs and some cloudiness in the coast districts. Light rain fell in San Diego county and on the northwest coast early in the week and heavy rain in the vicinity of Los Angeles on the 27th.

Good progress was made in raisin making, fruit drying and gathering the later varieties of deciduous fruits. Grape picking continues and heavy shipments are being made to markets and wineries. In some sections the early fruits and a large portion of the first crop of raisins have been secured, but in other sections much of the fruit is on the trays and will not be ready for storage for two or three weeks. Grapes in some districts are said to have an unusually high percentage of sugar. Prunes are generally of superior quality, but slightly below average in yield. Apples are abundant and of very good quality.

Bean harvest is progressing rapidly, and in some sections the crop is estimated above that of last year, while other estimates show a short crop. It is too early to give an estimate of the damage to beans by the rain of Sunday, but reports next week will doubtless show some injury. Sugar beet harvest continues; the yield and quality are very satisfactory. Corn and potatoes are yielding good crops. Hops, grain and hay are nearly all secured. In the Los Angeles district rain caused considerable damage to hay, and slight damage to grain, beans and grapes will be largely increased by more rain. Thrashing of a good crop of beans delayed.

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GO TO GARDENA

Do you want a bargain? Do you want to make money and live in a beautiful farming district near street-car lines, 30 minutes from Los Angeles? Then "Go to Gardena," where there is taken an abundance of water from deep wells, ranging from 200 to 260 feet deep, and furnishing from 40 to 150 inches of water (per well) pouring forth an inexhaustible supply of pure soft water, both for irrigating and domestic use.

The soil is rich sandy loam, laying level and well adapted for irrigation. It produces the finest quality of alfalfa, berries and vegetables. The climate is ideal. There is a good class of people, churches, schools, etc.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room honse, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house snd barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

GRAY & NELSON

Gardena, Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

THE GREAT POINT OF SUCCESS.

Dairying, like many another business in which men and women engage, to be successful, must be enjoyed by those who engage in it. Unless the owner feels a commendable pride in his cattle and his equipment ,and thoroughly studies the character of his business in all its phases he must ultimately meet with failure in his endeavor.

Not only should the dairyman give attention to the individual characteristics of his cows, seeking to know the peculiarities of each animal, but he should study the best methods to get from his herd collectively the best results possible to obtain.

He can not do this if he does not feel a personal pride in his business. He must keep abreast of the times in all things connected with his work. Read up-to-date papers which give valuable instruction on the best methods of caring for the dairy cow, sanitary regulations and feeding. The reason so many men fail of success in dairying is because they take no interest in their work outside of what they realize from it in a pecuniary way. No business will succeed if conducted in a half-hearted manner, for sooner or later neglected details will bring loss and final bankruptcy.

The successful dairyman is he who loves his work, who takes a pride in it and strives to keep himself so well advised that no detail of his business escapes his notice.

The great point of success in dairying and stock raising is to be in love with everything connected with each branch of the enterprise. When this is the case there is no probability that the enterprise will fail.

We know a stockman who began life with two cows and a pig; today he is quoted as worth $125,000, and he told the writer that his pecuniary success lay in his study of every animal he owned for the first eight or ten years of his business experience. He loved his work, prized his stock, studied the conditions necessary to make his herd healthy and popular, and today he is as much of an enthusiast in cattle raising as he was twenty-five years ago. The great point of success in his case was his enthusiasm in his business.

It has ever been thus in all trades and occupations in life. It will continue to be even more strenuously so as competition increases and demand for the best becomes more general.

A DAIRYMAN'S GOOD INCOME.

The following experience of a successful Wisconsin dairyman was related at the recent meeting of the Guernsey Breeders' Association at Athens, Wis., by H. D. Griswold of West Salem, Wis.

"Choose a herd sire that has a mother and a grandmother and as many more relations as possible that were good milk and butter producers," advised Mr. Griswold. "Get the very best you can. Then get a scale and Babcock test and know what each cow is doing. Cull out the poor ones and keep the best always. Keep up that practice with your heifers. You cannot buy good cows; there is only one way to get them, and that is to raise them. Then comes good feed and plenty of it warm and well lighted stable, and constant, careful care.

"Now to illustrate along this line I will give you a little of my own experience. In 1889 I bought my first Guernsey sire. I had then one Holstein cow, one Jersey and three or four Shorthorns. I find by my books that my total receipts for butter that year were $138.86. In 1891 I got a Babcock tester, the first one that ever came to our town. I found that year that my cows were making 365 pounds of butter each; I then had nine. I increased the number till in 1902 I had twenty-one cows. I have increased the average production per cow to 424 pounds each. I have increased my receipts from $138.86 in 1889 to $1937.43 in 1902.

I now have twenty-five cows, and in the month of May just passed we got 5700 pounds of cream, testing twenty per cent butter fat, with no other feed than grass and a little ensilage. These twenty-five cows are all grade Guernseys but five. I have three Jerseys and two full-blood Guernsey heifers. All but three were raised by myself on the farm and have never been off the place. Six of the twenty-five are two-year-old heifers.

"I tell you this not to boast, but to let you know what we are doing today instead of giving you some has-been tale. We have the same little fifty-acre farm that we had in 1889, but we have built onto the barn four times, have built two silos, and the farm is increasing in productiveness. But you will say it has taken a long time, over ten years. True, but you have to work at something, and dairying is no harder than any other work. The land must be kept up with some kind of stock, and what can you do better? Did you ever think that an income of $2000 on a little farm in the country is better than twice that in the city? Then the boys are interested in the good stock, as they cannot be in scrub stock. And this daily association with these dumb animals makes a man better. He has to anticipate their wants; he has to take lots of steps and do countless little things for their welfare and comfort, and these daily duties make him more thoughtful of others, and he becomes a better husband and father and citizen.

CAUSES AND CURE OF COLIC.

One of the most fruitful causes of colic is the too common habit of allowing horses to partake of large draughts of water immediately after finishing a feed of oats. There is no surer way of generating an attack of colic than this, the reason being that when a large quantity of water is thus imbibed it has the effect of carrying with it out of the stomach and into the intestines some of the freshly eaten grain. This instance, being still in a raw and undigested condition, its effect when it reaches the intestines is to give rise to irritation and inflammation which are the immediate causes of the colic. In dealing with cases of this kind the most obvious course to adopt is to take precautions to prevent the animals from drinking large quantities of water under the circumstances just referred to. When an animal falls a victim to an attack of colic, the best thing to do is to administer a dose consisting of one ounce of laudanum and two ounces of sweet spirits of nitre, along with half a pint of whisky in some hot water.

Very often simple cases of colic yield to the administration of a couple of ounces of cooking soda, diluted with water, and given as soon as the first symptoms of the attack are noticed. Should the administration of this cooking soda fail to give the desired relief, no time should be lost in following it up with the laudanum and spirits of nitre already suggested.—American Stock Farm.

TURPENTINE.

There is no remedy as useful in the management of pigs and hogs an English writer says, as turpentine.

"I have only one remedy for a sick hog, and it is a very simple one. Rheumatism, paralysis, blind staggers, thumps, scours, etc. I treat all alike, though in varying proportions. My cure-all or panacea is nothing more than fresh new milk and turpentine. For a young pig, says six weeks old, I administer a teaspoonful of turpentine in a half pint of milk. Unless the pig is very sick it will readily drink this. If too far gone to drink it must be administered with a spoon. An older pig, however will seldom refuse new milk, even when a tablespoonful of turpentine is given in a quart or more. I always keep a supply of turpentine on hand, and when there is anything wrong with the pigs at once give a dose of turpentine and new milk. It is the best remedy I know of for all the ills that pigs are heir to. Grade the dose from a teaspoonful for six weeks old, to a tablespoonful or more for a mature hog. The milk may be given ad libitum, or as much as the pig will take to drink freely."—Swine Breeders' Journal.

Attend to the feed of the work horses just as carefully as to the meals of their drivers.

In selecting a dairy calf, look for dairy points, and find out about its ancestry, and learn if the calf was started right with the intention of developing it along dairy lines. Unless this is done the calf will be a disappointment.

Bulls For Sale.
Registered and High-Grade Shorthorns
All Inoculated for Texas Fever, at
CHOWCHILLA STOCK FARM.
Address... ISAAC BIRD, Merced, Cal.

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California's Premium Herd of Shorthorns
27 Premiums awarded State Fair, 1902
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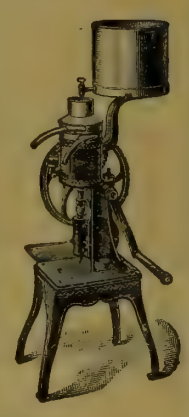

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FEEDING AGAINST SCOURS.

Scours in little pigs is, perhaps, one of the most frequent ailments that they are liable to. If it is let run until chronic it is hard to cure, and very much lessens the chance of the animal becoming a good one. There has been so much said and written on the subject, it seems superfluous to add anything more, but pigs are subject to scours. "An ounce of prevention is worth a pound of cure." Be sure of the cause that produces scours and then remove that cause as soon as it makes its appearance. This usually will check it without any trouble and little injury to the pigs, except a temporary check in their growth.

I feed to avoid the cause and it has proven a sure preventive. We read a great deal about the quantity of milk remaining in the sow's udder. If this were true very few litters of pigs would be three days old before they would have the scours. If the sow is in fair condition at farrowing time she will have more milk than her pigs will take for the first few days. I am very confident that it is the quality and not the quantity of milk that causes scours. Some one will says that if there is too much milk it affects the quality when the udder is only partly emptied at each meal. This is not necessarily the case, but only so when the digestive organs of the sows have been overtaxed, causing the stomach to only partly digest her food, and thus the milk is not right or in normal condition, thus affecting the stomachs of her pigs. This, in the sow, may be caused by feeding highly concentrated foods, or from sudden changes from light to heavy food, from dry food to slop made of rich feed or from sweet feed to sour slop, suddenly. I do not think that either rich or sour feed, if fed gradually, is the cause directly of scours, yet the manner of the feeding at the beginning of the change is very often the cause and the more radical the change in the feed the greater the shock to the digestive organs of the sow, causing a like effect on her pigs, which influence is less and less as the pig begins to eat for himself.

In changing from one kind of feed to another it should be by a gradual process. Many careful feeders improperly make changes from one feed to the next which is too sudden, and the system of the sow is not prepared for the change and the food is only partially digested. The sow should be fed lightly for the first few days after farrowing, as the system is weak and not in condition to digest strong feed. I have found bran or oat meal (ground oats) a very good feed, and the quantity should be gauged according to the condition of the sow and her litter, until the sow is fully recovered, when she can be gradually placed on a full ration, adding more concentrated feed to supply the growing demand of her litter. As long as the pigs are doing well, while their dam has only light, bulky feed, do not be over anxious to change the quality, but the quantity should be increased until she has at each meal all she will eat up clean, and then a little stronger feed can be aded, which, if care be taken, will act as an appetizer, and when pigs will show the effect of increased nourishment by smoothing and rounding out. If you have plenty of milk for the first few days give the sow her slop, mixed with part milk, gradually increasing the milk, and, if you change from sweet to sour, the change should be done very slowly and gradually.

No set rule can be given. A poor milker, or a sow with a small litter. can be put on full feed sooner than a good milker, or a sow with a small litter. There are a great many remedies that may be fed the sow with good results and to soothe or allay the irritation of the digestive organs, I have found tea from white oak bark to mix in the slop, a very good, home-made, inexpensive remedy. It soothes the stomach, acts as an astringent, while it does not affect the feed, lige copperas, mixed with the slop. I think the fast has as much to do with the checking of the scours as the merits of the medicine. Feed regularly and systematically with the directions as to changing the feed and you will not have much trouble and be successful in raising good pigs.—R. E. Rutter, in American Swineherd.

GOVERNOR PARDEE AT THE IRRIGATION CONVENTION.

Governor Pardee is fully abreast of the times in all matters pertaining to the welfare of the state over which he has been chosen to preside. He is thoroughly well posted on all the work of the departments and keeps them under his eye and in matters of importance gives them his personal attention. One of the great features of our state and one that becomes more and more important as time passes, and population increases, is our irrigation system. At the present time there is no non-irrigable land available, and very little open to settlement upon which water can be had except at a cost to the individual, which practically bars him from attempting to bring the two together. Yet there are thousands of acres of the finest land on earth open for settlement and capable of producing unlimited wealth, could water be placed upon it. At the same time, there are rivers of water running to waste that could they be turned upon these arid tracts would cause them to yield without stint and make happy homes for tens and hundreds of thousands more people than we have now. How to accomplish this great feat is the question. The process is an enormously costly one and no individual or combination of individuals can compass it. If it is left for a giant combination of capital to get the water and put it on the land, it practically enslaves the landowner, puts him under the control of the water corporation and makes him a tenant at will of the water ower. The state or the general government should own and control the gigantic water works that will be necessary in the future to reclaim the arid lands of the Pacific Coast, and the land owner should have the assurance of an ample supply at the cost of maintenance, a light tax upon him, while the corporation policy of all the traffic will bear would crush him out of existence or reduce him to a condition of practical serfage. No one appreciates the great future of irrigation in our state better than Governor Pardee, no one better knows the difficulties and dangers that threaten the system, and on one is more competent to handle the subject. It is in view of all this that the Governor attended the Irrigation Convention lately held at Ogden, where his presence and labors had great influence and will do much toward shaping future legislation in the interests of the California irrigators and will have an influence on our destinies that will be felt for all time.

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Is especially prepared to feed to moulting fowls, and it contains all the elements necessary to make the feathers grow, Coulson's Egg and Feather Food is not a fattening food, but a food that makes muscle, bone and feathers. A hen may be extremely fat and yet not have the vitality to stand the strain of growing new feathers, and many hens die during the moulting process. If you want your hens to complete the moulting process quickly, and to have a beautiful, glossy plumage, just feed them all they want—a full meal at least once a day (and sometimes twice a day)—of Coulson's Balanced Ration Egg and Feather Producing Food.

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MRS. A. BASLEY, Associate Editor
Prospect Park, Cal.

THE ULTILITY FOWL

What do we mean when we speak of the utility or general purpose fowl of today?

I mean a fowl which will not only lay a large number of good sized eggs, but one that will also make a good broiler, or roaster. A fowl that will sell well as market poultry besides filling the egg basket.

It is hard to find all the good points in one variety or breed, but the utility fowl of the day is undoubtly one of the American breeds. This has not only been proved in our own country, but the European breeders are also coming over here for American fowls. I know this, as I have already made four shipments of white Plymouth Rocks to New Zealand. And am receiving inquiries from British Columbia and the South Sea islands, and have this week shipped a trio of birds to Manila to a government official who intends to try to improve the native breed.

The American breeds are justly popular. They have been made by the very careful crossing of other or foreign breeds; for example, the well known and most popular breed, the barred Plymouth Rock, is the result of a cross between a Dominique male and a black Cochin female. The offspring of this was crossed with a gray Chittagong (or wild Indian game), cockrel and from these originated the Plymouth Rocks. These have been carefully mated and bred for about forty-four years, each year more care being taken to bring them up to standard requirements. The three varieties of Plymouth Rocks, the barred, white, and buff, take the lead and rightly so in the American class, closely followed by the Wyandottes, and the Rhode Island Reds. These breeds are the utility fowl of America. For the profitable sale of the surplus cockrels a fowl that "dresses" well is the best and quickest seller, with yellow skin and legs, and an absence of colored pin feathers, a plump meaty carcass that the most fastidious trade eagerly buys, here is where our big profits come in. In my opinion the American breeds are not only the utility fowls but the money makers.

However, there are many other highly commendable breeds and I think the best breed for any one to choose is the one he likes best.

The Mediterranean fowls are excellent layers of pure white eggs.

The French Houdan's lay a pure white rather round shaped egg and are excellent table fowl, the Crevecoeurs also.

The English Dorking are celebrated for their table qualities, the game, the Orpingtons, &c. The Hamburgs for layers of small delicate eggs, and last, but not least the Asiatics. I confess that woman-like I have tried all these breeds at various times, always buying the best and breeding winners, but when it came to a matter of making money at it, I settled on the White Plymouth Rocks as the breed for my purpose. Still I would say, choose your breed, which ever one you fancy, and then study that breed, learn to know all about it, study each fowl, make it your friend, and soon collectively they will pay you with plenty of eggs and an abundance of chickens.

The different breeds require different feeding and care, and as a rule in writing about the feed and care required it will be for the American breeds, as those are the breeds for America.

* * * *

ANSWERS TO CORRESPONDENTS.

A letter from Mrs. C. S. K., too long for publication, asks. Why don't some one tell about turkeys, how to raise them, etc.? Full directions were given in the Cultivator early last spring at turkey breeding season. It is too late to raise turkeys now. Another correspondent says tell about geese, what care do they require? This also was described and will be again in the early spring, if I wrote about it now, it would be forgotten then. Gesse begin to lay on Candlemas day—An old English rhyme has it "Candlemas day"

Half the wood and half the hay
The geese and ducks begin to lay.
Candlemas day is February second.

Third. Tell about Indian Runner Ducks, their ways and care, also the Pekin, when do they lay, are they good for feather use?

Answers to these questions are fully given in the Cultivator of March 20th.

* * *

Another correspondent writes: "This is my first year in the chicken business, had very good success until about a month ago, when I discovered that some of my pullets were coughing, and I noticed that the eyes were red and swollen, also a mucus discharging from nose. I doctored for roup, using Mrs. Basley's remedies as given in Cultivator and many other remedies, all without any degree of success. I have lost over fifty up to this writing. Could you offer any suggestions or tell me of a remedy that will effect a cure? Answer through Cultivator."—A Subscriber.

The symptoms you describe are those of roup. I cannot tell you, not knowing the circumstances, how your fowls took cold or became affected with it. You, yourself, must find the cause, remove it, then apply the remedies given in the Cultivator. There is very little use in trying the remedies if the cause is still there and aggravating the disease. The causes usually are, first, a draught of air through a very narrow crack or knothole, or keyhole. It may be but one pullet will have it, her neighbor on the roost will take it from her, then lice for roupy chickens invariably have lice. It will go from one to another, it will also be carried in drinking water and in a few days the whole flock will be infected. It is very infections. It usually begins with a cold and prevention is far easier than cure. My advice would be to keep on using the cures, move those that are well into a clean fresh house, disinfect all your houses, and give to all your fowls blue stone in the water for a month, or you can alternate the bluestone with sulphate of iron, put a piece the size of a bean in a quart of water. Kill those that are the worst and you may save half the rest

I know this must sound very discouraging to you, but it is what we all go through the first year, until we learn to notice the little things. At the first little sign of a cold pick up that pullet, doctor her, put her in the hospital then go down on hands and knees and crawl around your hennery till you find the crack and stop it up. I did it, found a tiny hole drilled by chicken thieves, who were driven away by my dogs, but I lost my beautiful "White Prince" from cold he took sitting in front of that little forgotten hole. The chicken business is made up of little things and easily ruined by little things. Little lice, little mites, little cracks. Your chickens have lice, the lice go to the eyes to drink and carry the germs. If you water your fowls by a stream flowing from one pen to another that is a patent way of carrying infection. I know a man who lost three thousand fowls in this way. Yours may have been infected by the neighbors fowls or you may have brought in new

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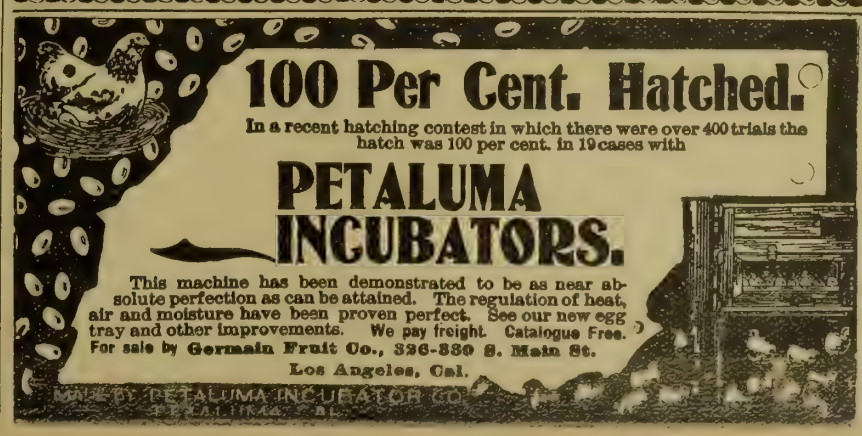

fowls that developed it and infected yours. Plough up your poultry yards and sow grain to renew the soil, and use disinfectants, and the roup cure, and keep up your courage.

A reader asks "Will you kindly answer the following through the columns of the Cultivator? I want to know if you can tell me of any one who is making a commercial success of raising White Plymouth Rocks in this part of the country? I know that your ranch is successful, but I want to handle commercial poultry myself and want to know what the White Rocks will do for me in that way, as I am a great admirer of their beauty.—A Constant Reader, Long Beach.

Two and a half years ago Mrs. Rhoda E. Durfee of 112 West Fourth street, Santa Ana, bought a pen of me. In five months she had received money enough for eggs sold to pay for the fowls besides having all the eggs she required for the family and twenty-eight chickens besides.

She asked me to mate up her pens last January. I went to see her last week, saw her egg record book. Her sixteen hens laid from the first of January to the first of September two thousand four hundred eggs—or an average of a hundred and fifty eggs per hen for eight months. She is making a commercial success of it, and any one keeping White Rocks as clean and healthy as Mrs. Durfee does will be sure to succeed commercially.

There are others I could mention, if you wish for more names please let me have your name and address.

A well bred hen must be well fed to do her best.

It costs no more to feed pure breds than scrubs.

A hen that has its growth is very easily fattened.

Keep a dusting box where the fowls can get at it handily.

With poultry as with all other stock the best is the cheapest.

PASADENA FARMERS' CLUB.

This valuable organization met on the 24th of September at the home of Mr. and Mrs. F. A. Gould, for the purpose of arranging a programme and electing officers for the coming year. The following officers were elected: Mr. S. O. Bowen, president; Mr. J. C. Knight, vice-president; Mr. Joseph Thorndike, secretary-treasurer. Mr. Bowen has had many years' experience as a State horticultural officer in Connecticut; Mr. Knight is one of the most widely known ranchers of La Canada, and Mr. Thorndike has served the club as secretary-treasurer since its organization five years ago.

Owing to the limit of time but one paper was presented. This was by W. S. Way, whose valuable paper discussed the new bird law.

Mr. Way is an enthusiast on the subject of birds and their value to the farmers and orchardists of California. In this paper he showed the necessity of cultivating birds as well as crops.

He brought out the fact that the meadow-lark and dove are most useful birds to the farmer, that the lark's food consists of 90 per cent. of insects and 10 per cent. of weed seeds, and the dove's food consists of 70 per cent. of weed seeds and 30 per cent. of sbarrated grain.

He advised the club to obtain the following publications, which would be sent free by T. S. Palmer, head of the Biological Department at Washington, D. C.

"Common Birds to Agriculture."

"How Birds Affect the Orchard."

"Foods of Nestling Birds."

"Audubon Societies in Relation to the Farmer."

The Messrs. Stone treated all to some very fine music.

A few minutes were spent in open discussion of how farming papers can be made more useful to the farmers.

REST.

The farmer sits beneath the trees—
His work is over for the day.
Across the long, low meadow leas
The fragrance of the new-mown hay
Comes sweetly to him on the breeze.

Across the upland pastures dim
He hears the bluebirds softly call,
While underneath the osiers trim
The brook speaks louder at its fall.

His muscles rest from healthful toil.
No need to have a scheming brain
To take from others, and the spoil
Add to a false and fleeting gain.

Earth's luxury is before him spread,
Thanks to his might of heart and brain.
No one is loser, but instead,
His toil is his, and others gain.

The farmer nods beneath the trees—
His work is over for the day.
Across the long, low meadow leas
The fragrance of the new-mown hay
Comes sweetly to him on the breeze.
—Henry E. Haydock.

MRS. SALTER'S SPELLS.

Mary Ellen Salter and Henry Beebe had been engaged for three years. The parents of the young people, on both sides, were well pleased with the contemplated alliance, the bride was willing and Henry Beebe's cottage on the adjoining farm was furnished and ready. Only one thing stood in the way of consummating matrimonial intentions, and that was the state of Mrs. Salter's health.

Mrs. Salter's malady was known to the neighbors as "spells", and was, presumedly, from some heart difficulty, though just what form of disorder the doctor, if he knew, kept with professional wisdom to himself. There were vulgarly healthful people who gave the "spells" a sharper, less sympathetic name, and openly declared it a shame the way Mrs. Salter imposed on her husband, who lost so much time running to his wife's bedside that his farm was running down from neglect. As for Mary Ellen, these coldly critical people averred, it was a shame to keep her from getting married, and she with her housekeeping outfit ready these two years. Not every young fellow would be as patient as Henry Bebee. There were plenty of girls ready to step into that new house without waiting.

But Mary Ellen was a dutiful daughter, and dearly as she loved Henry, gently but firmly refused to leave home until her mother's health showed signs of permanent improvement. "Mother just looks like she couldn't stand it to have me leave her while she is so poorly. If she was to die in one of her spells, Henry, and me not there, I could never forgive myself," she said.

Henry Beebe had heard the rumors concerning the exaggerated importance of Mrs. Salter's attacks, but he was too loyal even to mention this to his fiancee. "But we will be so close to your mother, Mary Ellen; I bulit the house on the nearest corner on purpose, though it was twice as hard to get water there. You know I would never hinder you from waiting on your mother. A half-mile is no distance."

Mary Ellen shook her head. "Let us wait until fall. Father's crop will be harvested by that time, and Dr. Harvey thinks mother is apt to grow better in cool weather. Maybe you had bet ter give me up anyway," she added with a pathetic little smile.

Henry Beebe took his sweetheart in his arms. They were standing at the edge of the orchard where they could see the waiting cottage. "There isn't any other girl in the world for me, nor ever could be. I'll wait for you till I'm gray headed, if I have to. No other woman but you is ever going to sit on that front porch, and kep plants in that bay window, and don't you think it for a minute."

Martha Beebe was Henry's maiden aunt, and one of the few who did not wholly believe in the seriousness of Mrs. Salter's illness. Martha had "means" of her own, and was forehanded and thrifty as any farmer in the neighborhood. It was weell known that she was unmarried from choice, for she was a woman of good sense and feeling. One day at a quilting there were the usual covert allusions to Mrs. Salter's peculiar malady. "I'm no doctor," said Martha Beebe, "and don't believe in doctors much, but I'll warrant I could cure Mrs. Salter in one treatment."

"Why, Martha Beebe!" rebuked little Mrs. Burkett, "after she's been doctoring for yeam, and the bottles and bottles of stuff she has taken!"

"That's just the trouble; ;if she'd let that patent stuff alone. The Lord only knows what is in it. I believe Mrs. Salter's ailment is in her head more than her heart, and if I ever get a chance, I'm going to try my remedy, anyway. No, I'm not going to tell what it is," she added with a slight flush, "a doctor don't give his secrets away."

The opportunity came sooner than was expected. While the company were quilting, the hired boy from Salter's rushed in hatless and breathless. "Say, Mr. Salter says can't some of you women come over right away? Mrs. Salter has been took bad, and nobody there but him. Mary Ellen has gone into town," he cried.

Martha and Mrs. Burkett got into the spring wagon and hurried immediately to the afflicted one. They found the patient laid out on the bed, enveloped in quilts from head to foot. Her mouth was limply open, and her eyes seemed fixed on a far away corner of the room. Mr. Salter, the very picture of masculine helplessness, was fanning his wife with a wheezy Japanese fan that was split in two pieces. Martha Beebe took instant charge of affairs.

"We'll look after her now, Mr. Salter," she said, "you had better go out and see about them young heifers; they have broke into the alfalfa, we noticed when we were coming in, and they'll make themselves sick."

She felt under the heavy quilts for Mrs. Salter's heart. To her unpracticed touch there seemed to be nothing abnormal about the beating of that organ. But the sick woman's clothing was wet with perspiration, and Martha laid two of the quilts back. "She's got enough cover on to kill a well woman! But men ain't got any feeling," she added.

Mrs. Burkett looked at her uneasily.

"Oh, she can't hear a thing now," Martha went on confidently, "we could go right on talking about what everybody is saying about her, and she couldn't hear a word. Hand me that fan off the mantelshelf, Mrs. Burkett. Of all fool things! To fan a sick, mebbe a dying woman, with this thing! But it's just like him!"

Mrs. Burkett gasped.

"I think if a man has got a weakly wife, he needn't show he's tired of her so plain that the neighbors talk about it," continued Martha.

There was an almost imperceptible movement of the inert body, and twitching of the wide open, staring eyes.

"Of course," Martha went on, "it would better for everybody if she was to pass away in one of these spells, instead of lingering on, a hindrance and a burden, even to herself. The Widow Bettner would make him a good match, and she is dreadful healthy. My folks have accused me of making up to the widower that is soon to be. You know he used to come to see me before he did her," pointing to the figure on the bed. 'But I tell them its downright unfeeling to talk that way beforehand, though there is no denying that a healthy woman would make a sight of difference in this place."

At that instant there was a miniature earthquake. The quilt enveloped woman sprang up gasping and staggering, flinging the heavy quilts to the floor.

"Oh, you think so, do you? Well, I can tell you now, Martha Beebe, it won't be the Widow Bettner, nor any meachin' old maid either. And I don't believe a word of what you've been saying. My husband isn't tired of me!

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He—he—" and Mrs. Salter burst into tumultuous sobs.

Martha was a little frightened at the success of her experiment but she met the attack boldly. "I've done just what I set out to do, Mrs. Salter. I've brought you out of a fit when everybody thought you was insensible, and proved that you wasn't as near dead as you thought you was. Oh, I don't mean to say that you are really pretending to be sick, but you have been deceiving yourself. I ain't denying that you feel bad, and weakly. But you are just giving up to your feelings and sacrificing your family shameful. I'm going to speak my mind about it while I'm at it, and say that the neighbors are saying that it's too bad about Mary Ellen and our Henry. But nobody ain't ever said a word about Mr. Salter, except that he is the patientest and tenderest man that ever lived, with no thought of anybody but his wife.

"But I believe, and there are others that believe, that you could control your feelings, and overcome, to some extent your ailment. A woman that can get up and eat a good meal of victuals right after she has been close to death's door, as you always appear to be, can't be dangerously sick. You ain't the first woman that has given way to hysterics, and thought she had heart disease. Now I have spoke my mind, and I ain't sorry for it. But I'll turn to, and help you straighten up the house if you say so, and Mrs. Burkett and me will never mention what I've said."

Mrs. Salter had, during this tirade, passed from violent weeping to calm, repentant tears. What further passed between the women need not be repeated: It is sufficient to say that Martha succeeded in making her peace, and establishing a tie of friendship which was never broken. When Mary Ellen came home from town, she was startled to find her mother in the kitchen making biscuit for supper.

"Why, mother," she began.

"Yes, Mary Ellen, I reckon you heard that I had another of my spells; but I don't low to have any more. Mirs Beebe, she had some mighty good medicine, and I think I'm going to improve right along now."

Henry Beebe came over that evening as usual, and Mary Ellen met him with a tenderness that more than repaid him for his probation. "We'll go over tomorrow and air the cottage," she said, "and—and we can be married next week if you say so."—Sallie F. Toler.

FRUITS, VEGETABLES VS. MEDICINES.

Diet instead of drugs is becoming a more and more popular method of medication as we become more aware of the beneficial effects of the various plants and fruits on the system, and it is certainly a great deal more agreeable to eat a fine ripe orange or a delicious peach than to take a dose of blue mass or fill our systems with calomel. A late issue of "What to Eat" says that if people understood the medicinal values of foods they would use them more for physical ills and the doctors would have to go to something else for a living. For instance, spinach and dandelion are good for kidney troubles; celery is good for rheumatism, nervous diseases and dyspepsia; lettuce and cucumbers cool the system, and the former is good for insomnia.

If you want to perspire freely to relieve the system from impurities, try asparagus.

There is nothing, medicinally speaking, so useful as the poor and humble onion. They are almost the best nervine known and may be used in coughs, colds and grippe, in consumptions, scurvey and kindred diseases. White onions overcome sleeplessness, while red ones are an excellent diuretic. Eaten every day they soon have a whitening effect on the complexion.

For malaria and erysipelas nothing is better than cranberries.

Fresh carrots and yellow turnips are good for scurvy. Carrots for asthma, watermelon for epilepsy and yellow fever, lemons for feverish thirst in biliousness, low fevers, rheumatism, coughs, colds and liver complaints.

Eggs beaten up raw with sugar are used to clear and strengthen the voice, while with lemon and sugar the beaten white of an egg may be used to relieve hoarseness.—Medical Record.

Don't store eggs in a dark place, as it will often make them musty.

SCOLLOPED POTATOES.

Three cupfuls of finely mashed potatoes, two tablespoons of butter, three of cream, one egg beaten until light, four boiled eggs. While the potatoes are hot beat up with the cream, butter and raw egg, salt and pepper. Put a layer into the bottom of a buttered dish, cover with the slices of cold egg; salt and pepper lightly, then a layer of potatoes and so on until the potatoes are all used having a layer of potatoes on top, wihch sprinkle with cracker crumbs and bits of butter. Bake until heated through and slightly brown.

OYSTER SALAD.

To one large can of cove oysters take one-half a teacup of lipuor from the oysters, one-half a teacup each of vinegar, butter and powdered crackers; yolk of four eggs, and one teaspoon of mustard with salt and pepper to taste. Beat the yolks, add the butter, oyster liquor and crackers, place over the fire and stir constantly until cooked; add the vinegar and mustard and oysters, garnish with hard boiled eggs run through a potato ricer. Make this salad several hours before it is wanted for use.

CARMEL CAKE.

Two eggs, one cup of sugar, one-half cup of butter, one-half cup of milk, one-half teaspoon of soda, one teaspoon of cream of tartar and two cups of flour. You can use baking powder if you prefer it or soda and sour milk. Bake in two layers. Caramel for cake, two cups of sugar, two-thirds cup of milk and butter size of an egg. Boil ten minutes and beat until nearly cold and flavor with vanilla; if you want chocolate caramel grate in two or three spoonfuls of chocolate.

MUCH VIRTUE IN AN ONION.

The idea of an onion cure may not strike the fancy of the aesthetic; however, the experience of those who have tried it is that it works wonders in restoring an cold-racked system to its normal state again. There are three kinds of doses in the onion cure, or three onion cures, as you may choose to put it. One is a diet of onions; the other is onion plasters and the third is onion syrup.

It is claimed by those who believe in the onion cure that a bad cold can be broken up if the patient will stay indoors and feed on a liberal diet of onions. It need not be an exclusive diet, but a liberal one. For instance, an onion-cure breakfast includes a poached egg on toast, three tablespoonfuls of fried onion and a cup of coffee. Luncheon of sandwiches, made of Boston brown bread, buttered and filled with finely chopped raw onions, seasoned with salt and pepper, makes the second meal on the schedule. For supper the onions may be fried as for breakfast and eaten with a chop and a baked potato.

The strange efficiency of onions is well known to the singers of Italy and Spain, who eat them every day to improve the quality of their voices and keep them smooth. Onion plasters are prescribed to break up hard coughs. They are made of fried onions placed between two pieces of old muslin. The plaster is kept quite hot until the patient is snugly in bed, when it is placed on the chest to stay over night. Onion syrup is a dose that can be bought of any druggist and is claimed by some to be unequaled as a cure for a cold in the chest.—Table Talk.

ROOM FOR ANXIETY.

They were newly married, and were spending their honeymoon at a seaside resort.

At the expiration of a week they sent a letter to the old home in which it was written that "the weather was lovely, and that they often indulged in a row in the mornings."

Next day, on returning to lunch after an hour's boating, they found a telegram waiting, which said:

"You say you have had a row. How do you pronounce the last word? Your anious father."—Epworth Herald.

I adore thee, sad September,
With they sere and somber glow,
As they fading, fleeting shadows
Chase each other as they go.
While the Marguerites bedeck thee
And the black-eyed Susans smile,
May I cherish a sweet secret,
As my soul thou dost beguile.

Geese and ducks should not be killed for the market until they are full feathered.

BY ERNEST BRAUNTON, GLENDALE CAL.

OCTOBER VEGETABLE CALENDAR.

During the month you will find all vegetable growers very busy sowing seeds. Near the writer's home our friend John Chinaman, to the number of six, are gardening, and all their work of late has been that of putting seeds in the ground. It is in order to plant the following during October: Beans, cabbage, cauliflower, carrot, lettuce, onions, parsnips, peas, radish and spinach (every month), and turnips.

You will find that it pays to work the ground over very thoroughly several times and get the soil in the best possible condition. Such treatment will save much labor through all the season and goes far toward ensuring a good crop. Some attention should be paid to rotation of crops—do not plant root crops in the same place for two successive seasons or head crops either. Aim to grow a crop above the ground one year and follow it with one beneath the surface.

* * * *

GARDENING FOR OCTOBER.

October is the best month for planting lilies and all those bulbs that are known to gardeners as "Dutch bulbs." These are such as anemones, hyacinths, narcissus, ranunculus and tulips. In planting any of these it will be found best to drop a little sharp sand in the hole before filling in with soil. This method will often prevent rot in case the soil is kept too wet.

It is also just the time to sow hardy annuals and perennials for bedding plants. The list of these is too long to enumerate, but contains all of the old fashioned flowers of your childhood and many more recent introductions. All the common sorts have been much improved during the last few years and you may be surprised to find that the flowers are much "finer than mother used to grow." When once you get a start with this class of plants you may, with little trouble, have a continuous supply for all time.

PROTECTING TREES FROM INJURY BY RABBITS.

Buy some pig or beef livers and rub the bark as high as rabbits bark the trees, and my word for it no rabbit will touch the trees. Of course the remedy must be applied more than once—as after a rain storm. I have tried it in California and know that the rabbits will not infest an orchard that has been treated with "blood" as above. It is a cheap plan and a practical one, as the use of livers does not injure the bark.—Chas. E. Frasher, in Epitomist.

REMEDY FOR PEAR BLIGHT.

Slake eight pounds of fresh lime with hot water, and thin with water so that it can be stirred easily; add two pounds of sulphur and stir it in well. Take five pounds of sulphuric acid and dilute it with two-thirds water with the whole so as to make a heavy, thick white wash. Apply to the body and larger limbs of the trees with a brush. —Jacob Faith in Practical Fruit Grower.

"ITS PENNY WISE"

Policy to set out a good tree, costing good money, and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe avenue, Los Angeles.

Smith (seeing beggar bearing sign reading "Deaf and Dumb"): "I'd like to help this poor fellow, but I don't know how to tell whether he is really deaf and dumb." (Beggar, softly): "Read the sign, mister; read the sign." —Indianapolis Journal.

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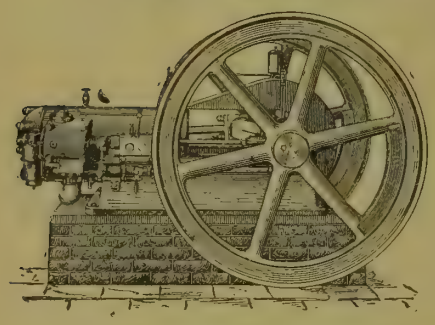

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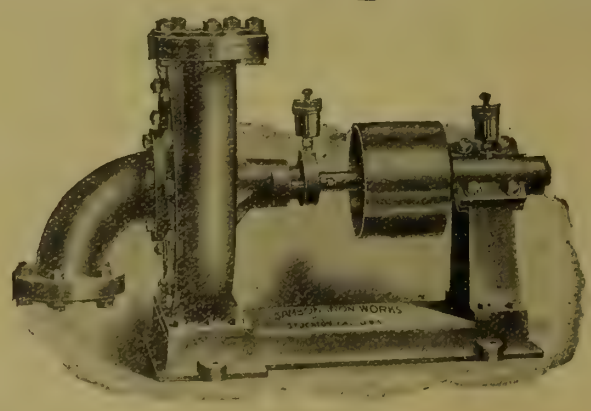

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SAMSON IRON WORKS STOCKTON CALIFORNIA

Los Angeles Markets.

LOS ANGELES, Sept. 24.

Los Angeles, Oct. 1.

Conditions in the local markets remain about as quoted last week. Eggs advanced a cent. Butter presents no change in prices. Poultry shows slight advance, with a firm demand for everything offered.

Butter.		
B. of T. Creamery, per 21b roll..		65
Dairy, do		60
Cooking	52½	57
Cheese.		
California and 3-lb hand		1-
Cal. Downey or Anchor		16
Coast, full cream	.16	17
Swiss	.13	
Imported		.28
Eggs.		
Fresh Ranch	.30	.31
Fresh Eastern	.26	.27
Store, case count	.24	.25
Potatoes.		
River, cwt		1.25
Salinas, do		1.65
Local, do	1.10	1.15
Sweet Potatoes	2.50	3.00
Beans and Dried Peas.		
Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00
Vegetables; Mixed.		
Onions, yellow, cwt		1.10
Beets, per 100 lbs	.60	
Cabbage, per 100 lbs	.80	
Carrots, per sack		.60
Chilles, green per lb		.03
Lettuce, per sack	.25	
Fruits; Fresh.		
White figs, 20-lb box		.50
Black figs, 20-lb box		.40
Cantaloupes, per doz	.50	.60
Watermelons, per doz	.50	1.50
Strawberries, box, fancy	.05	.08
Pears, northern, Bartletts, bx 40 lbs.		1.40
Peaches, per box	.40	.70
Limes, per 100	.90	1.25
Northern apples, 40 lbs	.50	1.25
Four tier belleflower		1.25
Local, box 30 lbs		.60
Fruits; Dried.		
Apricots	.05	.08
Pears	.07	.08
Peaches, per box	.40	.75
Peaches, per box	.40	.50
Local belleflower, 30 lbs		60
Northern apples, 40 lbs	.50	1 75
Poultry.		
Spring chickens	.16	18
Hens, No. 1 per lb	13½	.14
Ducks, per lb	.12	13
Turkeys, per lb	.16	.17
Turkeys, cold storage	22½	23
Live Stock.		
Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00
Hay and Grain.		
Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa, large bales	10.00	12.00
Corn, Oct. delivery		1.35
Barley	1.04	1.06
Wheat	1.45	1.50
Oats	1.15	1.25
MILL STUFF.		
Quotations f. o. b. cars L. A., are:		
Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.60
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75
Chicken wheat		1.65
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, Sept. 30.

The market for fresh lines of butter has been unsettled most of this week owing to light trading in these goods. The prices quoted were:

BUTTER—Per lb:		
Creamery extras	31	@31½
Creamery, good to fancy	28	@30
Dairy extras	25	@26
Dairy choice	21	@24
Store	18	@20
California storage	24	@26
Eastern Creamery	23	@25
CHEESE—Per lb:		
Cal. Creamery, mild new, extra	14	@15
Cal. Creamery, mild new, choice	13½	@14
Young America	14	@15½
Eastern, New York Cream, Cheddars and flats, new	14½	@16

Eggs and Poultry.

No very material change took place in the market for eggs and poultry this week. The demand was normal and the supply was equal to the call on every day except Wednesday, when a slight falling off in receipts raised the price a trifle.

EGGS—Per doz:		
Ranch, selected large	39	
Ranch, good to choice	32½	@38
Store	Nominal	
California storage	25	@28
Eastern	22	@27½

Poultry was in good demand and the offerings of large and fine quality fowls were quickly cleaned up at the maximum quotations, all the week. Fine hens of good size were particularly favored and easily brought the outside figure.

POULTRY—Old Roosters, per doz, $4.50@5.50;; young Roosters, $5@6; Fryers, $4@4.50; Broilers, large, $3.25@4; small, $2.50@3; Hens, 4.50@6; Ducks, per doz., old, $5@6; young, $5@6.

Fruits and Vegetables.

A fairly liberal trade was noticed in the leading varieties of fruits during the week and prices have maintained a steady rate.

Table Grapes met with a good call, but there was no market hardening of values, as supplies generally were up to all requirements. Fancy Blacks and Tokays in crates were held firmly at the top quotations and close clearances were effected. Muscats were in liberal supply and 60c was an extreme for the best offerings. Seedless Grapes commanded a slight premium, as but limited quantity of fancy was available and the demand was brisk. There was an easy undertone apparent in the market for Wine Grapes and the top quotation was an extreme for the highest quality of offerings. The bulk of the day's sales were recorded with $23 as an extreme, and the market closed with liberal quantities offered at this figure. The season for Peaches is now well at an end and market prices are largely nominal. There was a slight improvement noted in values owing to lighter offerings, the market having been relieved of a large quantity of inferior stock that has been carried over for some days past. Trading, however, was slow at the hardened rates. In Pears, winter varieties met with a fair outward movement at sustained prices and the call for the light offerings of Bartlett still on hand was comparatively good, considering the high prices prevailing. Top quality four-tier Apples were picked up freely at the maximum rates, while a depressed tone was apparent in the market for the cheaper quality Fruit, owing to heavy offerings and a sluggish sale. Quinces are held at previous prices and Pomegranates were easier under heavy supplies. Figs were slightly firmer for the better grades, but ordinary Fruit was plentiful and cheap. There was but a slow movement noted in Berries. Raspberries were abundant, and packers secured the bulk of the receipts at the minimum quotation. Strawberries and Huckleberries were freely offered at the old rates, but found few liberal takers. Cranberries were in liberal supply and an active market was reported at the established rates. The market for Limes was closely cleaned up, but as liberal supplies are due on today's steamer the market was easier and dealers anticipated a lower range of prices with the marketing of the fresh consignments. Other Citrus Fruits were without quotable variance and the market for Tropical Fruits was void of any unusual features.

Peaches—Per box, 25@60c; carriers, 40@60c; large open boxes, 50@75c; bulk, per ton, nominal.

Pears—Per box, Bartlett, $1@1.50; other varieties, per box, 40c@$1.

Prunes—Per box or crate, 50@70c.

Figs—Per box, 50c@$1.

Cantaloupes—Per crate, $1@1.75.

Nutmeg Melons—Per box, 40@75c.

Watermelons—Each, 10@20c.

GRAPES—Isabella, 60@70c; large box, 50@85c, as to variety; Wine Grapes, per ton, Zinfandel, $20@25.

Pomegranates—Per box, 40c@$2, as to size of box.

Quinces—Per box, 40@60c.

BERRIES—Per chest: Strawberries, Longworth, $5@8; large varieties, $2@5; Raspberries, $3.50@5; Huckleberries, per lb, 6@8c; Cranberries, per bbl., Cape Cod, $9.

TROPICAL FRUITS—Bananas, per bunch, Hawaiian, $1@1.75.

Limas are now the firmest offering, strong advices from the growing sections holding them in their present position. Liberal offerings of Whites were obtainable yesterday at quotations and orders for colored varieties could have been easily filled at the appearing prcies.

The Chronicle says: "Trading in Potatoes continues purely of a local character and the general market rules weak at easy prices. A heavy accumulation of both Oregon and River Burbanks was received, and although holders were somewhat inclined to force sales by accepting shaded rates Wednesday closed with an easy market and no material reduc-

tion in supplies. Salinas offerings were naturally easy in sympathy, but light supplies prevent any serious depreciations in prices. Sweet Potatoes were in good request at the quoted rate. Onions were as previously quoted and operators reported a slow but steady call. Heavier suplies of most descriptions of Vegetables had a depressing effect upon the market generally, but as there was a fair demand reported prices were not materially lower. Tomatoes were in liberal supply, but between the local trade and the packers the offerings were well cared for at the former range of prices. Summer Squash and Cucumbers were easier and only extra stock brought up to the top rate. Beans met with a good sale and fancy lots were cared for at the top figures.

VEGETABLES—Tomatoes, per box, 25@50c; Green Peppers, per box, Bell, 35@50c; Chile, 30c@40c; String Beans, per lb., 2@3c; Wax, 2½@3½c; Egg Plant, per box, 30@50c; Summer Squash, per box, 35@50c; Cucumbers, per box, 35@50c; Garlic, per lb., 3c; Green Corn, per sack, $1@1.50; crate, $1.25@1.75; Okra, per box, 35@50c; Marrowfat Squash, per ton, $10@12.50.

POTATOES—Per ctl: River Burbanks, 60 @85c; Early Rose, nominal; Salinas Burbanks $1.25@$1.50; Oregon Burbanks, 80@90c; Sweet Potatoes, $1.60.

Dried Fruits, Nuts, Etc.

The market for dried fruits remains firm. interest is still strongly centered in Prunes and available offerings found an active market at the hardened prices. Local brokers were refusing orders for October delivery on a 3c basis, they being busily engaged in filling earlier contracts. A market indifference has developed on the part of growers as to the selling of their product and they are now firm in their demands for full figures. Close clearances of Apricots are effected at the recently improved rates and the market maintained an excellent position for sellers. Peaches ruled firm at the top quotations and offerings of the other leading descriptinos were held wel up to full figures.

Honey is steady at former prices.

RAISINS—Prices by the California Raisin Growers' Asociation on standard brands, 1903 crop, f. o. b. at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.55; Two-Crown London Layers, $1.45; Four-Crown Standard, loose, Muscatels, 7c per lb; do, Three-crown, 6½c; do, Two-Crown, 6¼c; Seedless Muscatels, 5c; Seedles Muscatels, floated, 5¼c; Seedless Standard Sultanas, 5c; Thompson Seedless, standard, 6c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz. per lb., 7¾c; choice, 7½c; fancy, 12 oz. per pkg., 6⅝c; choice, 6¼c; bulk, per lb., fancy, 7½c; choice, 7¼c.

Apples—Evaporated, 5⅝6c; Sun Dried, ——

Apricots—Royal, fancy, 9@9½c; choice, 7½ @8½c; Moorparks, choice, 9@11c.

Peaches—Choice, 5½@6½c; fancy, 7@7½c; peeled, in boxes, nominal.

Pears—Choice, 6½@7c; fancy, 8½@9c.

Plums—Pitted, 5@7c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2⅞@3c for Santa Clara; other sections, ½c less.

Nectarines—White, 4@5c.

Figs—White, 4½@5c; Black ——

NUTS—Per lb: California almonds, hard shells, 5@6c; soft shells, 8@10c; paper shells, 11@12c; standard 7@8c; Pecans, 11@12c; Peanuts, nominal; Peanuts, Eastern, 5½@6c; do, California, 5@6c; Brazil, 12@13c; Filberts, 11@12c; California Walnuts, soft shells, 12@13c; Hickory, nominal; Chestnuts, Italian, nominal; Cocoanut, $4.50@5 per hundred.

HONEY—New Comb, per lb., White, 12@13c; Light Amber, 11¼@12c; Extracted Water White, 6½c.

Live Stock.

Prices for Hogs were quoted at a fractional decline owing to increased supplies. The market for other kinds of Live Stock was substantially the same as for some time past and familiar prices prevailed.

General trading in Fresh Meats continues of a routine character and as each day's offerings are well absorbed by the current demand the market presents a steady tone at former prics.

BEEF—Ped lb.: No. 1 Steers, 7¼c; do, second quality, 6½@7c; No. 1 heavy, 7@7¼c; thin, 6@6½c; No. 1 Cows and Heifers, 6½c; second quality, 6c; thin, 4@5c.

VEAL—Per lb: Heavy, 7½@8c; light, 9@10c; poor calves, 7@7½c.

MUTTON—Per lb: Light Wethers, 8@8½c; do, Ewes, 7½@8c; heavy Wethers, 8c; Ewes, 7½c.

SPRING LAMB—Per lb, 9@10c.

DRESSED HOGS—Per lb., 8½@9c.

Retail quotations for Meats, as furnished by the San Francisco Retail Butchers'' Protective Association, are as follows:

BEEF—Prime Roast, 15@18c; Porterhouse Steak, 18@22½c; Tenderloin Steak, 15@18c; Sirloin Steak, 12½@15c; Top Round Steak, 12½c; Beef Stew, 10c; Corned Beef, 8@10c; Soup Meat, 4@10c.

MUTTON—Leg, 15c; shoulder, 10@11c; Stew, 8@10c; Prime chops, 12½@20c; Stew, 8@10c.

SPRING LAMB—Chops, 25c; Hindquarter, $1.25@1.50; Forequarter, $1@1.25.

PORK—Loin Roast, 15@18c; Leg Roast, 12½ @14c; Shoulder Roast, 10@12½c; Chops, 15 @18c.

VEAL—Loin Roast, 15@20c; Shoulder Roast, 12½@15c; Chops or Cutlets, 15@20c; Stew, 12½ @15c.

These prices do not cover the cheapest grades, as it is imposible to quote regular prices on them.

Hay and Feed Stuffs.

STRAW—Good to choice, per bale, 45@60c.

FEED CORNMEAL—Choice grades, per ton, $32@33.

HAY—Prices on new Hay, per ton: Wheat, $11@15; Wheat and Oat, $10@13; Oat, $9@12.50; Barley, $8.50@11; Clover, $9@10.50; Alfalfa, $9@11.50; Stock, $8@9.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26@28.

BRAN—Per ton, $22@23.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

CRACKED CORN—Choice quality, per ton, $33@34.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 Shipping, per ctl, $1.37½; choice, $1.40; White Milling, good to choice, $1.42@1.51¼.

BARLEY—Choice, No. 1 Feed, $1.11¼@1.12½; off grades, $1.06¼@1.10; Brewing, No. 1, $1.15 @1.20; Chevalier, $$1,25@1.50.

CORN—Good to choice, per ctl: California, new, large Yelow, $1.47@1.50; small do, $1.70 @1.75; White, $1.45@1.50.

RYE—Good to choice, per ctl., $1.25@1.30.

OATS—Good to choice White, $1.20@1.32½; Red, $1.20@1.32½; Black nominal at $1.40@1.50.

BEANS AND SEEDS.

BEANS—Prices per ctl: Large Whites, $2.85 @$3; small do, $3.15@3.25; Pea, $3.25@3.50; Lima, $3.50@3.75; Red, $2.90@3; Pink, $2.00@3; Bayo, $2.70@2.85; Blackeyes, $2.65@2.85; Red Kidneys, $4@4.25.

DRIED PEAS—Green, $1.75@2.

SEEDS—Prices per ctl: Yellow Mustard, $2.50@3; Trieste, $2.75@3.25; Canary, imported, $5.50; Hemp, $3.25@3.50; Flax, $1.75@1.90; Rape, $1.75@2.50; Timothy, $5.75@6.50; Alfalfa nominal.

Hops.

The price for new crop is 22½@25c per lb, according to quality.

Wool.

The Wool market is reported quiet and in an unsatisfactory condition. The strike of the Wool handlers is but partly settled and this with dull Eastern markets is having a depressing effect upon the local trade. The recent sales at Reed Bluff wer surprising, as but few operators believed the offerings would bring the 11@11⅝c figures.

Eastern Markets.

Grain and Produce.

CHICAGO, September 30.—The Wheat market experienced a severe decline during the early part of the week at both Chicago and Nw York, but turned a point on Wednesday and closed as follows: September, 77; old, 77⅛; December, 77⅜@77⅜; old, 77⅜; May, 78⅛ @78¼. Corn—September, 44½; December, 45¼ @45⅜; May, 45⅛. Oats—September, 35¾; October, 35¾; December, 36¼. Rye, September, 54. Flax, cash, Northwestern, 1.01. Timothy, September, 3.05. Clover, cash, 11.25. Barley, cash, 45@60.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	99,700	14,800
Wheat, bushels	118,900	72,200
Corn, "	721,600	660,200
Oats, "	341,700	195,000
Rye, "	30,400	3,400
Barley, "	231,600	29,000

On the Produce Exchange today the butter market was easy; creamery, 13@21; dairy, 14 @19; eggs, steady, 18@19; cheese, firm, 11@12.

Chicago Live Stock.

CHICAGO, Sept. 30.—Cattle—Receipts, 17,000, including 3000 Texans; steady; good to prime steers, 5.25@5.95; poor to medium, 3.75 @4.90; stockers and feeders, 2.25@4.30; cows, 1.40@4.25; heifers, 2.00@4.50; canners, 1.40@2.50; bulls, 2.00@4.50; calves, 3.50@7.50; Texas-fed steers, 2.75@3.75; western steers, 2.85@4.65. Hogs—Receipts today, 20,000; tomorrow, 20,000; steady, easier; mixed and butchers', 5.50@6.30; god to choice heavy, 5.80@6.20; rough heavy, 5.30@5.70; light, 5.75@6.40; bulk of sales, 5.85@6.25. Sheep—Receipts, 30,000; sheep and lambs steady to lower; good to choice wethers, 3.40@4.25; fair to choice mixed, 2.25@4.00; native lambs, 3.50@5.75; western lambs, 4.40@5.35.

California Dried Fruits.

NEW YORK, Sept. 30.—The market for evaporated apples is quiet. The new fruit arriving was of unsatisfactory quality and receives little attention.. There is a moderate jobbing trade in old fruit. Comon are quoted at 4@5; prime at 5¼@5¾; choice at 6@6½; fancy at 6¾@7½. Spot prunes are firmly held and a fair trade is reported at quotations which range from 3¼ to 7c for all grades. Apricots continue firm at 9¼@9½ for choice; 9¾@10¼ for extra choice, and 10½@12 for fancy. Peaches are steady. Choice are quoted at 7¼@7¾ and extra choice at 7¾@8½.

CITRUS MARKETS

ORANGE AND LEMON MARKET.

The auction markets continue to show considerable strength and the past week has seen some additional advance in prices.. A very few extra fancy Valencias in New York reached high figures and the sale of all classes of stock in fair condition brought very satisfactory prices. The Western markets are showing a good demand for the number of cars enroute and some points are calling for more fruit than can be supplied especially in the better grades. The conditions all around are very satisfactory.

The same may be said of the lemon market for 300 sizes; 360s and 420s are much lower in price in New York on foreigns and the demand in the Northern and Western markets are for mostly 300s. The southern markets have taken but a light supply and there is ample stock in 360s and 420s going from California, but the demand cannot be met for the larger size. Shipments have been very light and there are but few lemons in the country to go out in the next couple of weeks. Yesterday's sales in New York showed a strong and somewhat excited market. The total shipment of citrus fruits by cars for the season ending Tuesday were 22,097.

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AUCTIONS.

YAGER FOOUR CULT MKTS 5II$;0e

NEW YORK, September 23.
Covina Fr. Ex., Red C. Val., $3.10; White C. Val., $3.05; Amethyst, $2.55.

PHILADELPHIA, September 23.
Covina Fr. Ex., Standard Val., $2.40.

BOSTON, September 23.
Sunset Fr. Ex., S. S. Val., $2.70.

CLEVELAND, September 23.
C. C. U., Alhambra, Victory Val., $2.20.

CINCINNATI, September 23.
C. C. U., Ontario Lighthouse Val., $2.25.

PITTSBURG, September 23.
C. C. U., Colton, Angel Val., $2.70; Blossom Val., $2.00.

NEW YORK, September 24.
Riv. Fr. Ex., La Mesa Val., $3.55.

NEW YORK, September 25.
Riv. Fr. Ex., La Mesa Val., $3.55; Golden Rule, $3.10; Standard, $2.15.

PHILADELPHIA, September 25.
C. C. U., Ontario, Peacock Val., $2.65; Lighthouse Val., $1.90.

BOSTON, September 25.
C. C. U., Fullerton, Trumpeter Val., $3.60.

CINCINNATI, September 25.
C. C. U., Lemon Grove Sardonyx lemons, $1.15.

CLEVELAND, September 25.
V. C. Fr. Ex., Cupid Val., $2.60; Syco Val., $2.40.

PITTSBURG, September 25.
C. C. U., Ontario, Peacock Val., $3.00; Lighthouse Val., $2.45.

NEW YORK, September 28.
C. C. U. Ontario Hylock Val., $2.95; Lighthouse Val., $$1.85.

BOSTON, September 28.
C. C. U., Ontario, Lylock Val., $3.30; Monogram Val., $3.00.

PITTSBURG, September 28.
A. C. G. Fr. Ex., Stag Val., $4.90; Pointer Val., $3.25; Hunter Val., $2.90.

NEW YORK, September 29.
C. C. U., Arcadia, Topaz Val., $3.25.

PHILADELPHIA, September 28.
Covina Fr. Ex., Choice Val., $2.90.

Mr. E. D. Ruffner of Lompoc, Cal., asks if it be true as reported by creamery men here that the creamery men of Los Angeles Co. and other counties in the southern part of the state refuse to receive cream from hand separators and if so, why?

It appears that creamerymen do not care to handle cream from hand separators on account of injuring best quality butter. It is only used in second grades. Experiments have not been satisfactory and therefore not used.

The grape crop in western New York is reported to be less than 40 per cent of a full crop. This is the nearest to a failure that region has ever experienced.

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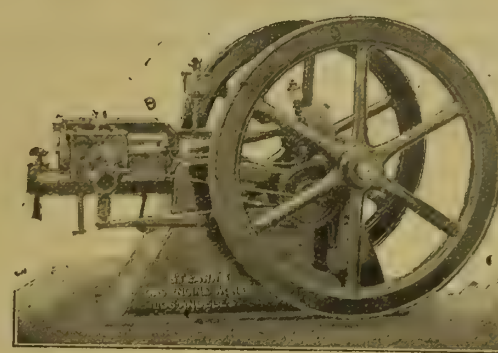

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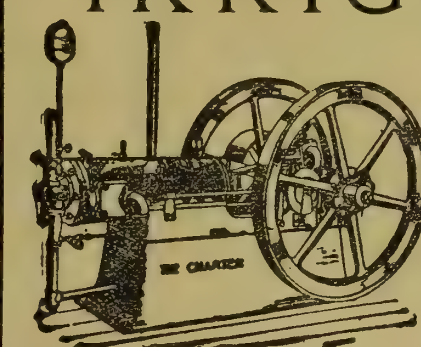

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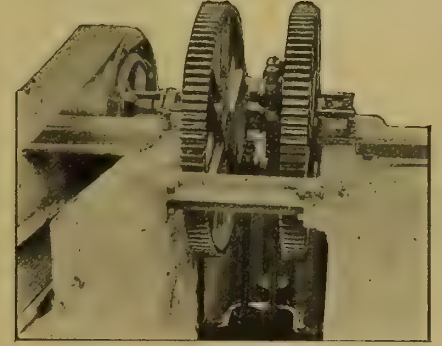

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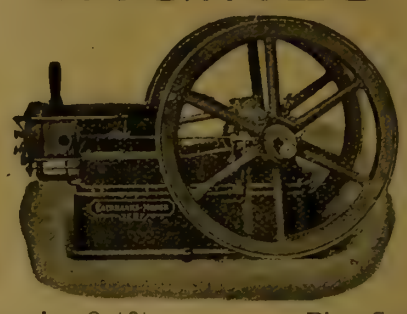

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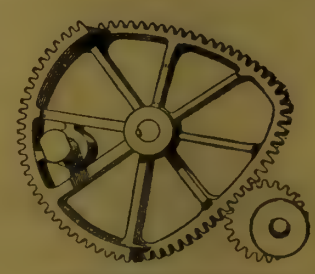

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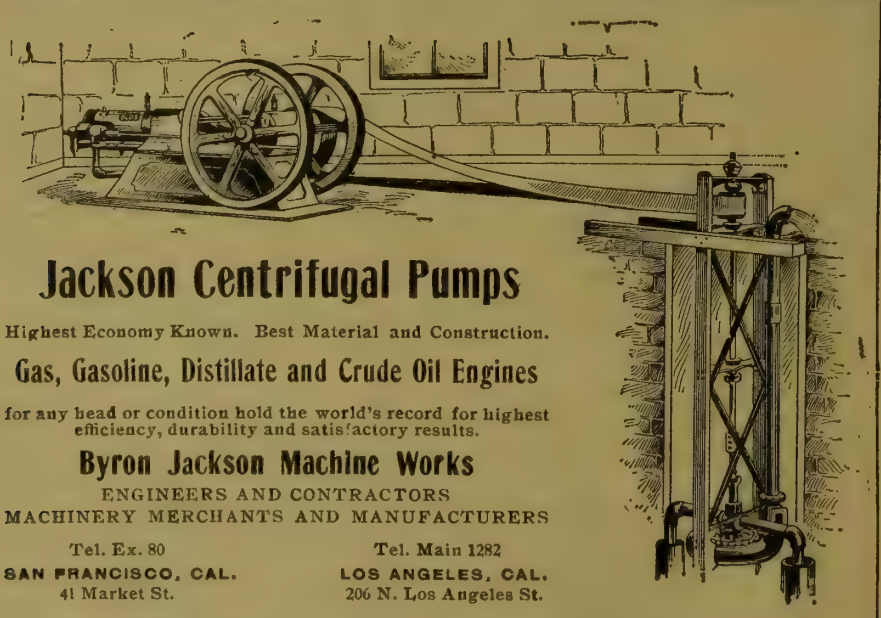

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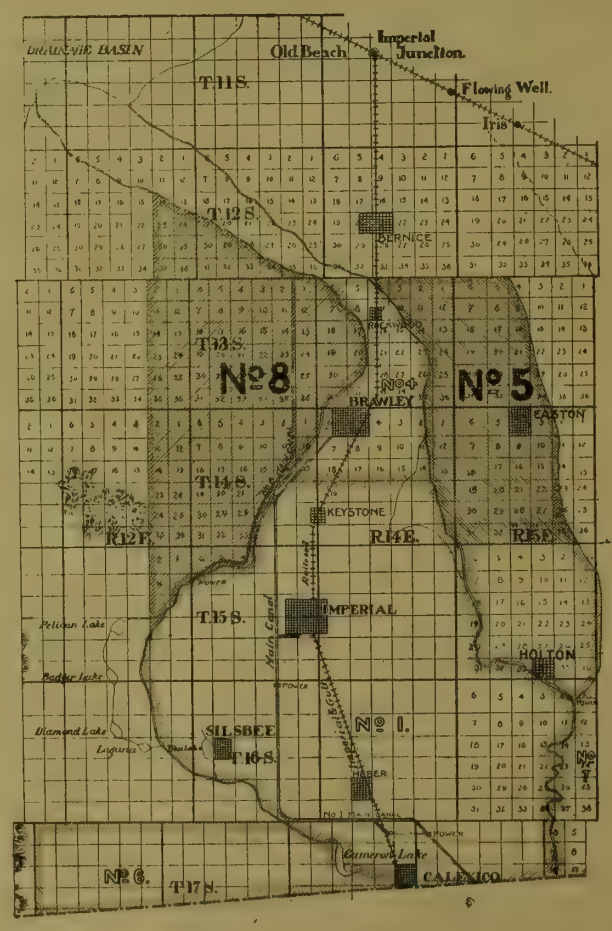

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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 15 LOS ANGELES, CAL., FRIDAY, OCTOBER 9, 1903 Subscription $1 a Year

MY CHICKENS

BY

MRS. A. BASLEY

Does poultry raising in California pay? Often I am asked that question and without hesitation I can say, yes.

Some one with a head for statistics has figured that the egg product in the United States amounts to more when measured by dollars and cents than the combined gold and silver production; and that eggs and poultry together are nearly double the value of the gold and silver output. My experiences with the two as sources of income make me believe that his figures are correct, especially if the chicken ranch is in California.

About eight years ago I came to California, the land of sunshine and gold, the land of oil and wine, of milk and honey. A beautiful land with its snow capped mountains, misty velvet hills, dreamy valleys fragrant with orange blossoms and spices.

Intending to live a quiet restful life with roses and palms I built a cottage on an acre and a half of land just outside the limits of Los Angeles, at Prospect Park, near enough to have the advantage of electric car service, far enough away to enjoy the rest and freedom of country life.

A country place is not a country place without chickens. Besides I had always been fond of feathered beauties. I looked about for Standard bred fowls. White Prince, a beautiful White Plymouth Rock had just won the first prize at the Los Angeles poultry show, so I bought him and his harem. All were thoroughbred White Plymouth Rocks—for I believe in heredity.

Observation and experience have both taught me that at least where chickens are concerned blood will tell. Thoroughbred chickens eat no more than common poultry; they grow to be larger, are healthier and handsomer, and they can be counted upon for a greater annual yield of market product.

Gold mining and other investments at this time proving very unprofitable, my income was suddenly reduced and I decided to turn my poultry to account.

My chickens were beauties for I had kept the strain absolutely pure. They were great fluffy white birds with yellow legs and beaks and bright red combs. No wonder people who saw them wished to buy, if not the high price birds, then eggs for a sitting. I was fairly launched in the poultry business.

Poultry business! What a busy life those words represent! The two dozen White Rocks, with which I commenced rapidly increased and I was under the necessity of building more poultry houses and having separate breeding pens. I now have two hundred hundred feet of consecutive houses besides fifteen colony houss, forty feet of brooder houses and out door brooders.

Realizing that in fancy poultry of any kind, shade is necessary for success, the first thing after laying out the pens was to select and plant shade trees. Here I decided that fruit trees would produce the best results, so I fairly crowded the yards with peaches, plums, figs, loquats, quince, pears and walnuts. In each yard I have a water hydrant, and under the trees I keep the iron drinking trough, which is washed out three times a day, the warm water being emptied around the trees, thus keeping the soil moist and loose, benfitting both trees and chickens, for fowls love to wallow in the damp earth under the trees.

The shade of trees in this climate is an essential for the comfort and well being of fowls and the fowls benefit the trees not only by the enrichment of soil from the droppings, but by destroying the insect pests which would otherwise injure both fruit and trees. Also by their continual scratching and digging the ground is kept mellow. No trees in this neighborhood show the marvellous growth and great productiveness of my trees, all due to the care the fowls, and I give them. Trees, fowls and children like to be petted, and the more they are cared for and nourished, trained up in the way they should go, or grow, the richer and finer the fruits, the results.

But to return to my chickens, I had never owned an incubator until I came to California. Grandmother's way of setting hens had been all that I needed "back East." Now that I was fairly launched in the poultry business for profit grandmother's methods were too slow ond out of date, so an incubator was bought, that proving successful the following year another was added. Poultry journals and books were perused and studied by day and night, for the "White Plume Ranch" must and should be a success from the first, and it was.

Brooders and brooder houses were built till there was room enough to accommodate twelve hundred chick-

(Continued on Page 250.)

Mrs. Basley's home at the White Plume Ranch

Chicks and Brooder

Standard prize winning White Rocks

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

(Continued.)

In our study of insects thus far, it has been noted that in all except the suborder Neuroptera of the lace wings, we have noticed that the transformations were incomplete. The insects in every stage look much the same so their relationship one to the other could not be mistaken even by the least observant. The bugs or hemiptera, the locust order and the lace wings of the suborder, pseudoneuroptera, all pass through incomplete transformations. All of the other insects, four orders in all—will illustrate complete metamorphoses.

In our last article we gave a general description of the bug. It will be remembered that the metamorphoses were incomplete, the mouth parts modified, that is, they do not bite but suck, and the wings differ from those of all other insects. In the suborder, heteroptera, the front wings are thickened at their base which fact led Linnaeus to give this name to the order. In many of them, however, the wings are all alike and the front wings have no thickened base.

We also took a brief survey of the suborder, Parasitica, which includes the lice, and all of these are wingless. The fact that they prey upon the human form divine makes them peculiarly repulsive.

The suborder, heteroptera or the true bugs are very common and are represented in all parts of our country by several families. These, of course all agree in having the thickened base to the front wing. As suggested in the last article, several families live for the most part in the water. There are some nine or ten families of these water bugs. As we should expect all of them are boat shaped in their form and have their legs more or less broadened, fitting them for oars. One family, the water boatman are very common in our pools, swim in the normal position and have a silvery appearance because they are always covered with a thin layer of air. The insects breathe this air which encases the body and they are thus permitted to rest on the bottom of the pools which they often do. They are, however, usually seen swimming near the surface. They often float upon the surface and by leaping up take wing.

We next have the Backswimmers, which in a general way closely resembles the water boatman, but they differ from these and from all other aquatic insects in that they swim on their backs. They are very quick and when disturbed will dart away like a flash of light. They feed upon other aquatic insects.

Another interesting family is known as the Water Scorpions. In form and general appearance they remind us of the walking sticks of the Orthoptera, but these differ in having wings and of course, they have a beak and suck rather than jaws for biting. These are also insectivorous and like the praying mantis use their front legs to grasp their prey.

I am often asked the name of the great electric light bugs. These have well been called the giant waterbugs. They are among our largest insects, often reaching two inches in length. They are flat and often an inch or more broad. They fly forth when mature, and are attracted by electric lights. An interesting peculiarity of some of these is the fact that the female fastens her eggs on top of her own back. They are glued so that they remain until they are hatched. Some of these are called "toe-biters" by the children. They are very rapacious and not only feed upon insects but other aquatic animals also.

Three families, the creeping water bugs, the toad-shaped bugs and the shore bugs also take to the water kindly, and are nearly as broad as long. So far as I know these are all also predacious. The four remaining families of aquatic bugs are all elongate and most of them are more given to treading upon the water or gliding over its surface. Two of these families are known as water striders and all of us have noticed them walking over the water as freely as though they had solid footing. The first of these have a very broad prothorax and so are some times referred to as the broad-shouldered water striders. The others are much more common and are to be seen almost any summer day, gliding over the surface of any fresh water pool. Their protnorax is narrower than the rest of the thorax and thus they are easy to distinguish from the others. Who has not seen these clustered upon the water and moving around in merry dance as though they were well acquainted with the cotillion. It is said that many of these live in the ocean and are often seen far from shore Both families live upon other insects.

The last family of these water bugs —the marsh treaders—are very slim, and again remind us of the walking sticks. It can also move on the surface of the water and from its small size is not likely to attract attention. Another family, not, however, aquatic, closely resembles the last. They are exceedingly slender and their legs hardly more than threads. Their front legs are fitted for grasping and they resemble the preying mantis even more closely than do the water scorpions, already referred to.

The remaining fifteen or sixteen families of the true bugs are all terrestrial and much alike in a general way, though in form they differ not a little. Some, like the pill bugs, are almost as broad as long; while others are long and slender, and some carry a very narow head with a very long sharp sucking tube, or mouth parts. These bite or, we might better say, pierce cruelly and have often been referred to during the past few years by the name of the kissing bugs. There are several species of these latter bugs, which are likely to cause quite a painful thrust with their sharp mouth parts. Since coming to California, ten years ago, I have personally known of four or five persons being bitten or stung by what we might call bed bugs, had not that name been previously appropriated. That is, they seem to have found their way into beds and there lie in wait for their victims. It is rather strange that they find their way to our couches as they usually live on trees and shrubbery, outside our houses. All of these narrow headed bugs are very predacious, feed wholly upon other insects and thus do us a great deal of good.

There is another curious family of bugs colored much to resemble flowers in which they hide. They have been well called ambush bugs. One of their favorite haunts is the golden rod bloom.. They have very strong front legs, beautifully fashioned for grasping. Although quite small, they are quick and bold enough to grasp an insect as large as the honey bee, from which they are ever ready to suck the blood and life. These are so interesting in this bee-catching habit that I have fully illustrated them in my Beekeepers' Guide.

Another family of bugs might well be called the lace bugs. As their head, prothorax and front wings are beautifully lace-like. They are very small, hardly a fifth of an inch long, but when viewed with a lens, are strikingly beautiful. I have often found them very abundant on our common Yerba santa.

A few years ago we might say that everybody was familiar with the bed bugs. Today because of greater refinement and higher civilization, these most repulsive human parasites are rarely seen. It is not difficult to rid a house and its furniture of these nauseating pests. Bichloride of mercury, or corrosive sublimate is exceedingly repellant to very many insects. Dissolved in alcohol and freely used in and about all cracks where these bed bugs are likely to hide, and we shall soon cease to be troubled with these obnoxious bugs. Lice and ants can be kept at bay by use of this same material. It is always well to remember that corrosive sublimate is a very virulent poison and should always be kept in some safe place in bottles plainly labeled "POISON."

I will mention four families of true bugs, each of which contain species which are terribly destructive. In the family, Capsidae, we have the four lined leaf bug, so called because it is lined on the back with yellow and black. I have known this to do fearful damage on garden shrubs in Michigan. The red-bug family contains the cotton stainer of the south, which is one of the serious pests of the cotton planter. The Coreidae family is represented by the squash bug, well-known because of its destruction to these vegetables in the eastern gardens. But the family most notorious is Lygaeidae. This family contains the celebrated chinch bug, often so alarmingly destructive in the states of the middle west. Though it is very small it often comes in devastating hosts and often lays tribute upon the farmers of Illinois and contiguous states, to the tune of millions of dollars. I have seen the statement that this insect has destroyed fifty million dollars worth of property in the state of Illinois in a single year. It is only about a quarter of an inch long, yet it comes by the millions and the farmer finds it almost impossible to cope with it. It passes the winter as a mature insect and hides under corn stalks and other vegetation. Thus the clearing up of rubbish in winter is found to be helpful. The insect also falls before numerous fungi and Prof. Snow of Kansas has even cultivated fungi in his laboratory with intent to sow them in the field and thus destroy the pests. The false chinch bug, closely resembles true chinch bug, and often does much harm in our own state. I will close this part of our subject with a simple mention of the stink bug family. These insects are usually broad and all who have come in contact with them will recognize the appropriateness of their name. Here belongs the Harleguin cabbage bug, so named from its brilliant markings of black, red, yellow and orange.

The true bugs furnish many very valuable predacious insects aside from the kissing bug family, already referred to. In our next we will discuss the suborder Homoptera, which will be a peculiar interest in our state, as here we find the aphids, the white flies and the notorious scale insects.

SPOTTED FRUIT.

Many inquiries are coming to me regarding spotted fruit. A good many have brought samples. The spots are large and at present very disfiguring. They are found on trees that have been neither sprayed nor fumigated. The cause is obscure. I believe it is caused by some insect, though what the insect may be I cannot tell. It may be that it was the army worm of last spring. We need to be very cautious in this matter, as many biased individuals, prejudiced advocates of either spraying or fumigation, will say it is fumigation or spraying, as the case may be, when in truth it is neither. I am investigating this matter and will give further information as the truth of the matter is developed. It remains to be said that neither fumigation nor spraying if properly done, will spot the fruit to any considerable injury.

I wish to remark again the importance of thorough work in spraying. The orchardist who does not look sharply after his work, if he is having it done in his orchard, is surely not acting wisely. I know of more than one case of spraying done in the last two weeks where examination just after the work was completed showed that the leaves on the inside of the tree were almost entirely dry. Of course such spraying will give little or no satisfaction. Mr. Frank L. Palmer, of North Pomona, who, as it will be remembered, has tents for fumigation, has just purchased a spraying machine. This after an extensive experience the past year in spraying. As I have often recommended, I believe this an exceedingly wise course. If a man owns his own machine and does his own work, the work will be certain to be well done.

* * *

BULBS AND FULLER'S ROSE BEETLE.

Miss Elizabeth A. Ward, Carpinteria has totally lost her strawberries by the attack of the grub of Fuller's Rose Bettle. She asks if it would be safe to plant bulbs on the site of the old strawberry bed. I believe it would. The beetles are all now in the mature state, that is, the grubs have all developed. So far as we know, they lay their eggs only on rosaceous plants. Therefore we have no reason to expect that the eggs would be laid on bulbous plants. The grubs have been found working on chrysanthemums and so we cannot positively affirm that they will refuse to attack any plant, yet we have no reason to expect that bulbous plants would suffer.

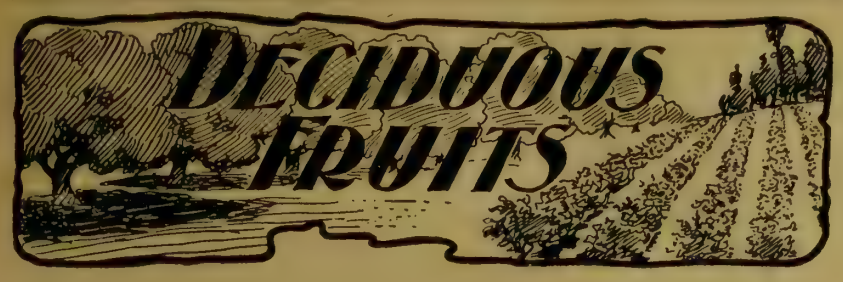
* * *

OAK TREE BORERS.

Mrs. Beatrice Rodgers of Santa Barbara has magnificent live oaks upon her place. These trees are suffering not a little from borers, which are working seriously in both limbs and trunk. The boring grubs penetrate deeply into the wood and from these tunnels, the sap flows so as to discolor the bark, which soon becomes more or less decomposed. Mrs. Rodgers wishes to know what this insect is, what the probable effect will be upon the trees, and if there is any remedy.

It is always dangerous to diagnose such a case without having seen the work and the insect. I have little doubt however, but that it is one of the long horned borers, a species of Elaphidion. These borers are very hard to combat. Washing trees with soft soap will prevent egg laying, but this is obviously impracticable in such cases, as that mentioned by Mrs. Rodgers. So far as I know, there is no way to successfully combat this evil. From the size of the trees however, I should hardly expect any very serious damage, though such disturbance is certainly not to be desired. I should be very grateful to hear from anyone who has had experience with these insects and especially to know of any experiments that have been tried to overcome the evil.

There are being built in Indiana and France airships, which mechanics of reputation say will be ready for use by the time the great St. Louis fair is opened next spring; that these ships will be so complete and so safe that they will be in common use by tourists visiting the Exposition. We are surely coming to it. After electricity, air, then we can skim the sky as now beneath the trolley the car glides over the earth.



J. W. MILLS, ONTARIO, CAL.

ANAHEIM DISEASE.

Editor Cultivator:—Will you please tell me what to do with my grape vines, diseased like this? This has been in the vineyard for twelve or fifteen years. It spreads very slowly and takes several years to kill a vine. —E. A. Hartstock, Healdsburg.

The specimen of grape vine that you send is very much dried up, but the stem and parts of the leaves have unmistakable signs of the Anaheim disease that has always remained a mystery. We cannot give you any remedy for it, nor can we refer you to anybody who can.

* * * *

PICKING PEARMAIN APPLES.

Editor Cultivator:—Would you kindly inform me what would be the best time to pick white winter pearmain apples for winter use and oblige a subscriber.—Subscriber, San Luis Obispo.

It is time to pick those apples now. There will be a part of the crop that will not be ripe at this time, and they can be left on the tree until they develop a little more. In a few weeks they will make better apples than those which ripen earlier in the season. An excellent way to keep a few boxes for home use is to pack them in cool dry sand so that they do not touch each other, and put them in the barn or some cool outbuilding in a cool place. We have seen apples taken out of the sand after having been kept that way until spring when they were as plump and juicy as when taken off the trees.

* * * *

INOCULATING PEA SEED.

Editor Cultivator:—I am thinking of planting peas for fertilizer and would like to know how much earth from land that has grown peas would be necessary to put on land that has never had peas on. Peas have been grown immediately across the road from my place. I intend planting about October 7th after irrigating and cultivating. Will that be soon enough?—J. C. Smith, Ontario.

It will not be necessary for you to use the soil by spreading it over the land. Take about a peck of soil one foot below the surface from the field in which the peas have grown and put enough water with it so that when it is drained off, it will wet the peas. If we were going to plant peas, we would soak them over night and sow them the next day. If you plant the dry seed, you will get a very uneven stand unless a good rain follows the seeding. We know of a case where dry seed did not come up on the sunny sides of the rows until those on the shady side had a good start. Our experience with planting seeds for green manuring crops has been a better crop and a more even stand when the seed was soaked over night. If the seed is to be sown early in the morning, the surplus moisture may be removed by sifting a little dry sand through it with a screen. Be sure to sift the sand first so that stones and coarse sand will not remain with the seed. This part of the job may be omitted if the seed is to be hand sowed or broadcasted. The drying process need only be employed to keep the seed from sticking to the seeder. If the seed is removed from the water early in the morning and sowed in the afternoon, it will be dry enough without sanding. To have obtained the best results, your peas should have been sown a month or more ago.

* * * *

CANAIGRE AGAIN.

Editor Cultivator:—I am seeking some crop that may have profit in it on a small ranch. Fruit here is a failure and grain on a five-acre ranch does not pay much. I have read for years about canaigre, the tannin plant and am creditably informed that you have experimented with it. I would like to know firstly, what is its profitableness; secondly, about the method of culture. Where the seed can be procured; how much seed is required to sow an acre and what is the price. I have read that it belongs to the dock family and if this is true it should be hardy. If you have the seed, please quote prices for several acres. If the stuff is feasible I will go into it on quite a scale. Please give treatment and preparation for market and where a market can be found.—J. H. Close, Escondido.

Canaigre culture has been out of date in Southern California for some years, and if you want to see the blasted hopes of a moneyed corporation, get off the Santa Fe train at Etawanda and drive out to Rosena on the same road. There you will see a deserted village that grew out of the once famous canaigre plantation at that place. Not a living thing is to be found there now and the expensive equipment for the business is rusting away.

The first specimens of canaigre that we ever saw were grown there, but the whole business died out. We do not know why it died unless it did not pay. We once planted two acres of it on our own account some six or seven years ago and we have never gotten our money back on it yet, and never will unless we can sell the roots to some one who is not posted in the business.

The trouble with raising this plant is, it takes from two to four years to make a crop that will yield a good weight of roots. There does not seem to be a demand for it, and we are sure that you would have trouble in finding a market. Promoters of the industry have argued vehemently that leather tanned with it was of extra fine quality. A wealthy, retired shoe merchant of Los Angeles has told us that leather tanned with canaigre tannin was "dead" and never would compare with leather tanned with some of the old tanning materials. This seems to explain why the canaigre enterprises that we have known have sunken into oblivion.

It takes about 14,000 roots to plant an acre. We can sell you roots to plant 10 acres at $2.50 per thousand but as an advisor would advise you to leave it alone. For a small grower to embark in the business would be worse than folly. You would get better returns in four years if you plant eucalyptus trees. The University of California has published some literature on canaigre. The Arizona station has also published bulletins on the same.

* * * *

EASTERN GRAPES FOR SOUTHERN CALIFORNIA.

We frequently have inquiries as to which are the best varieties of Eastern grapes for Southern California. There are certain sections which seem to be well suited to almost any of them and a large number are particularly fine. Mr. Cadwell of Carpenteria Valley has a small vineyard of Eastern grapes and we can say that we never saw finer ones than those growing on his place. His elevation is something like 400 feet.

At the Pomona Station, we consider Agawam and Lindly the best in a collection of about twenty varieties. The vines bear full crops every year and the color of the fruit is unsurpassed, being a bright red wine color, berries evenly colored all over in the shade and out of it. Agawam has bunches about four inches long and rather compact, though not crowding. Lindley has rather loose bunches about six inches long. Both varieties were loaded from the trunk outward for about two feet. There seems to be a growing demand for this class of grape in this end of the state. The two varieties ripen about the last of August and are gone about the time Concords come in. We frequently have inquiries about Concord, but it does not compare with the two varieties named above. Moore's Diamond is our best white grape of the class and Niagria does well also. Iona is a sweet, tender, dull colored red grape but will not sell with Agawam and Lindly. These two have beauty and quality combined.

* * * *

ALMONDS AND GRAPES FOR CUCAMONGA

Editor Culivator:- I have a place in Cucamonga that I wish to plant to grapes and almonds. Can you give me any advice as to varieties and proportions of varieties to plant? I want late table grapes. Any advice you can give will be gratefully received.—Thos. Gray, Acton.

We would advise you to plant the greater part of your land to grapes. The almond is a late bloomer and is often caught by the late frost. We sometimes have to go without a crop for three years from this cause, but on the average, we find that they pay well. We have also learned that they must have water in abundance if we expect to secure much returns. They not only make a better quality of nut from the crop that is on the trees at the time of irrigation, but they are better able to withstand cold weather while in bloom if they have been well irrigated during the previous summer. Well irrigated during the previous summer means that they must have water enough to keep the trees growing while they are maturing a crop of nuts. During the last two years, our trees have been irrigated about four times during the summer and they have made a growth of from six inches to two feet all over the outer and upper surface of the trees and at the same time matured large crops of fine nuts. Last spring they caried their bloom through severe frosts, 27 and 28 degress, and came out with big loads of nuts. In planting, we suggest the following varieties: Golden State, Languedock, Nonpariel, Ne Plus Ultra should not be planted in large blocks of one variety as cross pollination is an important factor. Languedock is a poor bearer if planted alone but with other varieties it gives regular crops provided late frosts do not kill the fruit or bloom and the trees receive water enough to mature vigorous buds. We should suggest planting in blocks of four rows of a kind, making them run north and south.

The best late table grape for the sandy soil or Cucamonga is perhaps Black Morocco. A variety that we have here under the name of Black Corinth bears enormously in the same kind of soil. Golden Queen is a very prolific white variety that ripens late in October The bunches look very like handsome clusters of Muscats. Cornichon and Flaming Tokay are good late varieties, but they do their best on heavy soil. Perferably one with a red subsoil. Cinsaut is our choicest black table grape but it ripens early in the second period.

It is proposed to acquire Mt. Tamalpais and the surrounding forest of 25,000 acres, and turn them into a national park. A district twelve miles long by two and a half miles wide, is embraced in the proposed reserve. Considerable private property will have to be purchased at a cost of about $300,000

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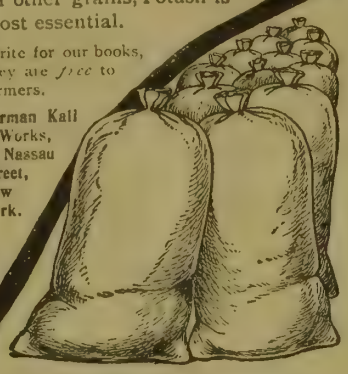

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Land and Water

BY A. J. McCLATCHIE, PHOENIX, ARIZ.

EUCALYPTS FOR HOT, DRY REGIONS.

(Continued.)

About their names again.

Before proceeding with the discussion of the above subject, the writer wishes to disclaim all responsibility for the spelling and the capitalization of the Eucalypt names that appeared in the preceding article. The responsibility is with the printer, who took liberties with the plain typewritten copy furnished. The name used in the heading conflicted with what followed in the text, and should have been Eucalypts, not "Eucalyptus". The latter word, as explained in the part that preceded, is the Latin name of the genus, just as Citrus is the Latin name of a genus of fruit trees. Its proper use is principally in giving the botanical names of the various Eucalypts, or, if used in the place of the latter word, is to be given the proper plural form Eucalypti and begun with a capital. We cannot properly say "the eucalyptus," as so frequently appear in American papers, any more than we can properly say "the citrus,' in speaking of orange or lemon trees. In Australia, the home of these trees, as well as in most parts of the world into which they have been introduced, the terms Eucalypt and Eucalypts are used almost exclusively, and there is every reason why these brief convenient names should be the ones used exclusively in America.

However, "Eucalyptus" may be properly used as a descriptive word, and we can therefore say "eucalyptus trees" or "eucalyptus wood" just as we say "citrus trees" or "citrus fruits." The names of the species should invariably begin with a small letter, they being only adjectives describing the name of the genus. For example, Eucalyptus rudis means "rough Eucalypt" E. ficifolia means "fig-leaved Eucalypt," E. polyanthema, "many-flowered Eucalypt," E. longifolia, "long-leafed Eucalypt", and so on, just as Citrus trifolia means "three-leaved orange."

One object in writing this series of articles upon Eucalypts is to aid the readers of the Cultivator in getting the nomenclature of these important trees straightened out, and the writer trusts that his undertaking is not going to be defeated by the failure of the printer to follow copy.

* * *

Eucalyptus polyanthema (Red box):—This species endures the trying conditions of hot interior regions even better than does E. rudis recommended in the preceding article. The principal failing that makes it less suited for general and extensive planting is its slower growth. It is uninjured either by the frosts of winter or the heat of summer at Phoenix, where the mercury falls to 18 during the winter and rises to 118 during the summer. It does well in the interior valleys of Southern California, at Fresno, and at Tucson, and therefore may be safely planted anywhere in the Southwest.

As it has denser foliage and makes a more bushy growth than most Eucalypts it makes an excellent shade tree and windbreak. The leaves are permanently broad, being roundish or broadly ovate and of an ashy or dull green hue. As the name indicates, the bloom is profuse, the flowers being small and thickly clustered. The bark is much like that of an ash, being slightly furrowed and grayish in color.

This tree produces a very hard wood that is strong and durable. Besides making an excellent fuel, it is valuable for ties, for posts, and for carriage and implement making. The growth, while somewhat slow, is substantial and the product more valuable than that of many more rapidly growing species. It deserves to be planted much more generally than it has been.

* * *

Eucalyptus rostrata and E. tereticornis (Red Gums):—These two species are among the most valuable ones of all the Eucalypts. They are the true Red Gums, and no others should be called by this name. They resemble one another in some respects, while in other respects they are quite different, there being, however, intermediate forms that are quite difficult to identify. The flower buds of typical specimens of E. rostrata have caps with short abruptly-pinched-off points, while the flower bud caps of typical specimens of E. tereticornis are long and slender. The specific names indicate this difference, rostrata meaning "beaked" and tereticornis meaning "round" or "slender-horned." E. tereticornis usually makes a considerably straighter growth than E. rostrata, the trunks of the former being erect and even in size. Also the bark of E. tereticornis is more inclined to flake off in patches than the bark of E. rostrata, which usually remains smooth and of a brownish color. The seedling and sucker leaves of E. tereticornis are quite broad and large, while those of the other species are slender and rather small in size. The bloom of both is profuse, the flowers of E. tereticornis being the larger.

E. tereticornis grows more rapidly than E. rostrata, under most conditions, and seems to endure most frost and more heat. In Australia it grows in dryer soil than does E. rostrata. Testimony differs as to which furnishes the better timber, the quality evidently varying considerably with the soil in which they grow. But as both are so valuable, planters need not give themselves much trouble to make careful distinction between them. The important point is to be able to distinguish them from other so-called Red Gums. They do not endure quite as much frost as E. rudis and E. polyanthema, but they will grow in most of the interior valleys of the Southwest. E. rostrata does quite well at Needles and at Phoenix, and E. tereticornis does quite well at Phoenix and at Tucson.

The timber of the Red Gums is very hard and durable, making the best of hardwood lumber. Besides being valuable for fuel, for posts, for railway ties and for telephone, trolley, and telegraph poles, when cut into lumber it is adapted to a great variety of the purposes for which hard wood is used. The wood of E. rostrata is a rich red when freshly cut, changing to a darker red or a brown as it seasons. It is consequently well adapted to use for the manufacture of house furnishings and for the inside finishings of dwellings. So numerous are the uses of these trees that they deserve to be and will be planted extensively in the future.

* * *

CURING DATES.

W. M. Scott, Yuma, states that he has this year a small crop of seedling dates for the first time, and wishes "instructions as to the best mode of preparing them for use." All dates are ready for use just as they come from the tree, and most of them, at least many of them, are ready for packing. There seems to be a very general supposition that all dates need curing, just as do figs and grapes; but the fact is that they are sold on the market practically just as they come from the trees. Some varieties contain so much sugar and other solid matter when they are picked that their tendency is to become too hard, unless they are consumed soon or are shipped to a moister climate. Other varieties are of such a consistency that they keep a long time without becoming too dry, or deteriorating in any way. Others that are slightly juicy when they ripen require a brief exposure to the sun before being packed, especially if they ripen during moist weather. A few varieties contain so low a percentage of sugar that they will sour if they are not dried some.

At the Experiment Station we have found the best procedure with dates to be to cover each bunch with a sack of cheese cloth, and then gather the ripened fruit about once in ten days. The sack prevents depredations by birds, and catches any fruit that falls from the bunches. As each tree bears only a few bunches, each weighing ten to thirty pounds, the expense of covering them is very slight. Most varieties will be just about in the right condition to pack just as they come from the sacks. Drier varieties need to be gathered more frequently than the more pulpy ones, to prevent them from becoming too firm before they are packed.

* * *

PROSPECTIVE AGRICULTURE ON THE COLORADO.

From Hydrographer Arthur P. Davis and Professor R. H. Forbes the writer learns that the amount of land proposed to be irrigated through government works, along the Colorado between Needles and Yuma, is approximated at 1,000,000 acres. The water is to be raised to the level of the adjacent land by a series of dams. Professor Forbes, who recently returned from a river trip from Needles to Yuma, finds the climate and soil similar to those of Phoenix. The agricultural and horticultural products will therefore be similar to those of this region. A warmer climate in some parts of the region may, Professor Forbes thinks, make possible the culture of one variety of dates that does not ripen here properly.

This project is one of the many that the Geological Survey is exploiting, and if carried out, will add a large area of productive land to California and Arizona. Somewhat over one-half of the acreage proposed to be irrigated lies on the Arizona side of the river. This would more than double the cultivated land of the territory.

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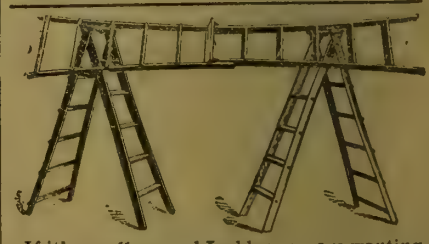

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Fuller's Rose Beetle...

Geo. Compere on his return from Honolulu in May, 1899, published in the Cultivator an article calling attention to the destructive work of the Japanese beetle, Adoretus umbrosus, upon the foliage of different trees growing in the Hawaiian islands. To add weight to this note of warning, an illustration of the work of this insect upon the leaves of Eucalyptus robusta and the leaves of the orange, was printed in the Cultivator of the same issue.

We had at that time in Los Angeles county a beetle, the habits of which were but little known excepting to a few of the closer observers. We still have the same beetle but its habits are now known to the great sorrow and financial loss of a vast number of horticulturists. The enormous spread of this insect in the past few years, its feeding habits while in the larval form, and it omnivorous appetite in the full grown stage, warrant the belief that if vigorous and concerted efforts are not promptly made to check the spread of this pest its ravages in the near future will rival, if not eclipse that of the Japanese beetle, against the danger of importing which Compere so earnestly warned us.

This insect is Armigus fulleri. "Fuller's Rose Beetle."

It was so called in honor of the late A. S. Fuller of Montana, who found it feeding upon rose bushes. That it affected other plants has been known for some time. But its widespread attack upon the roots of cultivated plants principally the raspberry and strawberry has been brought to light during the present year by the writer, in an investigation made under the direction of the Horticultural Commission of Los Angeles County.

The insect is described by the Department of Agriculture as follows: "Adult insect from a quarter to three-eights of an inch in length. The color a dark dirty brown, the entire body including the legs, lightly covered with gray or pale-brown scales. On each side of the elytra there is a whitish diagonal line.

The eggs are smooth, soft and of a pale translucent yellow. These in batches of from ten to sixty are secreted by thrusting them between the loose bark and the stem, at the base of the plant just above the ground"

The larvae measures about 8 mm. in length, is milky white in color; destitute of organs of locomotion, and when resting assumes an arched position.

The pupae is about 7 mm. in length and of the same milky white color as the larvae.

The form of this insect generally recognized in this country is the beetle, and its work is manifested by the ragged edges of the leaves where it has been feeding. Within the past ten days the beetles in numbers have been found feeding upon the following plants: Roses, camphor, dahlias, chrysanthemums, orange, lemon, camelias, hibiscus, apple, sterculias, eucalyptus, draccuas, carnations and possibly acacias. In some of the above cases the work of the insect was complete and highly suggestive of its capability under favorable conditions.

These beetles are so long-lived and hardy that it is difficult, if not impossible, to destroy them by the use of ordinary insecticides, at such strength as would be safe to plant life. In such cases as above, perhaps the best remedy will be found in hand picking the smaller shrubs and in jarring the trees over an out-spread sheet to catch the falling beetles In the case of potted draccuas and other plants in the nurseries relief will be found by keeping the plants upon a low trestle the legs of which have been placed in cans filled with water. The insects being wingless and unable to fly over the obstruction will thus be prevented from reaching the plants. In the field nurseries where citrus trees are grown and where this insect often does an immense amount of damage to the young growing buds, a method of prevention that has been found of great practical value, consists of placing a narrow strip of cotton batting around the trunk of the young tree, securing this with a piece of wire and then turning the upper part of the cotton down over the wire. The beetles appear to be unable to pass this barrier on their attempt to ascend the tree.

While the presence of these beetles has been known, and their destructive work a source of annoyance and loss to growers and nurserymen in this region for some time past, their breeding grounds and the extent of the damage done by them during the larval period has not been known and probably never suspected until during the past summer. An extended investigation of the berry fields developed the fact that in almost every location where berries had been grown for over two years in succession, this insect was found feeding upon the roots in more or less large numbers. Blackberries, raspberries and their miscellaneous hybrids belong in common with the roses to the great botanical family Rosacea, and it is possible that the original food plant of this insect may have been the wild berries.

In the fields of raspberries, loganberries and blackberries infested with this pest the effects of its work are not apparent until at least the second year. Unable to bore into the root (as in the case of strawberries) it works upon the tender growing tissue commencing at the tips of the smallest roots and eventually denuding the entire root system, up to the surface of the ground, of every particle of bark and cambium layer. The effect upon the plant is slow but positive. Fruit generally sets in profusion, but development stops about the last of May. The leaves at the tips of the canes are the first to show signs of distress, no wilting, but a gradual drying up, commencing at the edges and soon involving the entire leaf. The tips of the canes quickly follow, the fruit shrivels up, and the entire plant succumbs.

Remedial measures were not attempted in this investigation in the infested raspberry and loganberry fields, but the general methods employed in the strawberry fields should prove applicable in such instances. The larvae and pupae were found most abundant during the month of June, and the general issuance of the beetles took place about the middle of July. Treatment with Carbon-bisulfid would probably be most effective applied in May.

Raspberry vines, especially those of the variety cuthbert often show signs of distress identical (to a superficial view) with those produced by the work of this insect, an investigation below ground will often reveal a more or less aggravated case of root-knot, but no insect, and again an investigation, suggested by the appearance of the leaves and canes, no matter how thorough, will fail to reveal any cause for the disturbance beyond a suspicion of possible cane blight. In case of diseased raspberry, blackberry or loganberry vines the grower should thoroughly investigate the case or else apply for assistance before applying remedies.

In the strawberry fields the work of this insect is very disastrous and from testimony gathered from general sources has been at work in this direction, though unrecorded, for many years. The destruction of the strawberry plants is continuous all summer but the principal attack is apparently confined to the month of May. The method of attack appears to be about as follows: The larvae or grub enters the plant by boring into the stem at a point one and a half or two inches below the surface of the ground, tunneling upward to the crown where it eats out the entire heart of the plant. The effect upon the plant is prompt and positive, the wilting or collapse being sudden and complete in a very short time and can readily be recognized from the effects upon the plant caused by other insects.

In carefully studying the findings of the investigation for the purpose of devising some measures of relief, the fact that the insect in its adult state was wingless or so nearly so as to preclude any attempts at flight, and that the grub was unable to travel but a few feet at most, immediately suggested that the first practical step would be to change the location and take in new land not infested by the insect. However, this is not as practical as it would appear at first thought. Strawberry growers have in a great many instances expended large sums in grading and fertilizing the soil and in perfecting irrigating facilities, and for these other measures of relief must be found.

Prof. T. H. Chittenden of the Department of Agriculture, suggested the burning over of strawberry fields after the harvest of berries for the summer was completed. To attain this end he advised the mowing of the vines allowing the cut foliage to dry, covering the ground lightly with straw and burning with the wind. This appeals to me as an eminently cheap and practical remedy of reaching the beetles that have issued and are at present hiding under the foliage of the plants and debris upon the ground. In this region where irrigation is practical and the roots can be kept moist it should be absolutely safe, and a valuable auxiliary to the treatment in May, with carbon-bisulfid, against the larval-form of the insect. In addition to completing the destruction of the insect in question, it will destroy millions of fungus spores and many other forms of insect life.

In attempting to rid the soil of grubs and pupae in the badly infested fields and thus prepare them for the comparatively safe planting of strawberries next season, recourse was had to the use of carbon-bisulfid. A series of experiments was made with this material using it in different amounts and at different distances, these experiments and the results obtained are incorporated in a report which is now on file in the Horticultural office of this county. Suffice it to say that one-third of an ounce, used at a distance of every lineal eighteen inches in the row was found to be complete and destroyed all insect life down to a depth of eight inches. The cost of material for this treatment was ten cents for seventy-five running feet of row. Used in the early part of June, this will probably be found the most practical method of ridding the infested ground of the larvae, and pupa, of this insect but will not save the infested plants.

In the fields of young strawberry plants a careful watch should be kept during the latter part of the month of April and also May. Whenever a plant is found to wilt suddenly it should be carefully lifted and destroyed. In almost every instance at this season the grub will be found in the plant, In the thousands of plants lifted during the investigation very rarely was more than on grub found in a plant, where the plant was young and lately set. A few drops of carbon-bisulfid may be placed in the hole made by removing the plant and thus insure the death of any grubs that may be left in the soil. Experience has shown that there is no danger to adjoining plants in the row from the use of carbon-bisulfid providing the liquid does not touch the roots.

There is no remedy known to the writer that will save a strawberry plant when once it has been attacked by this grub, but the prompt removal and destruction of the infested plants will save the majority of the new plantings from destruction.

Many and various causes conduce to the death of strawberry plants in the fields, especially of the young plants. Some of these are apparently inexplicable and the grower should carefully investigate the causes as advised in the case of raspberries before applying remedies.

In the gardens, chrysanthemums and carnations are severely attacked by this pest and the sudden wilting and death of any of these plants should be immediately followed by a thorough examination of the roots and surrounding soil. If any grubs pupae or beetles are found, the soil around where each plant was removed should be given a dose of one-half ounce of carbon-bisulfid and left for some time before replanting.

While the most general attack upon the roots of strawberries and raspberries apparently took place in May the insect has been found working in a desultory manner all summer. Wilted plants containing grubs were found from April to September, inclusive, and to keep the new fields clear of this pest will require constant vigilance on the part of the growers.

To sum up, this insect is spreading rapidly and threatens to become one of the most serious pests in this country, and in hopes of arousing an interest in the matter its different habits and the methods employed against them are here recapitulated.

The beetle form—On shrubs and trees.

Hand picking and jarring into outspread sheets.

On potted plants in nurseries.

Keeping plants on low trestle with legs placed in cans filled with water.

On young budded citrus stock in field.

Placing bands of cotton batting around trunk securing it with wire.

The larvae or grub form—On raspberry, loganberry and strawberry roots.

Removal of young plants when first infested. Use of carbon-bisulfid on old badly infested patches, mowing and burning over old fields immediately after the harvesting of the summer crop of berries.

On roses and other flowering plants in the garden, prompt removal and destruction of all dead or infested plants and disinfection of the surrounding soil with carbon-bisulfid.

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ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Oct. 9, 1903

Circulation this issue 8,800

CUBAN RECIPROCITY PROSPECT.

Much discussion has recently been indulged in among leading politicians and tradesmen as to the outlook for Cuban reciprocity in the next congress. It was thought last month that possibly an extra session of congress would be called to determine the question of ratifying the proposed treaty, and it is assumed that after few days spent in organizing, in maneuvering, and perhaps in filibustering, the legislators will go home for Thanksgiving week without having made any progress with the Cuban business. This will bring them close to the first Monday in December, the date for the first regular session of the Fifty-Eighth Congress—so close, in fact, that it is extremely doubtful whether definite action will be had on the treaty prior to the regular session.

A correspondent of the New York Sun writing on this topic from Washington, under date of September 26, gives it as his opinion that in the very brief space between the end of the Thanksgiving recess and the beginning of the regular session "congress will again tackle the Cuban reciprocity question, which has for many months been a sore disturber of our political peace." It would not, however, be at all strange or unreasonable if the Thanksgiving recess should be prolonged until the first Monday in December. In that event the time spent in the extra session would be time wasted. Should this view of the probabilities commend itself to the mind of the President no extra session is likely to be called, and the Cuban question will be permitted to take its turn in the regular session. Many Senators and Representatives favor this course, and not without good reason.

A bonus of $150,000 paid by trunk-line roads to Chicago packers was the cause of the recent advance in the rates on dressed beef.

FOREIGN PRODUCTS REJECTED.

Information comes from Washington to the effect that twenty cargoes of foods and wines have been rejected by the Department of Agriculture as unfit to be consumed by the people of the United States under the Foreign Food Law which became operative July 1 last. The list of rejected imports includes two cargoes of Sauterne wines, five cargoes of Rhine wines, four cargoes of olive oil, three cargoes of Frankfurter sausages, one cargo of vinegar, one cargo of coloring matter of foods and four cargoes of canned vegetables.

Since the law became operative 205 samples have been taken. Eighteen of these samples are yet to be analyzed; 167 cargoes have been pronounced pure and twenty were rejected as impure. This shows that 10 1-2 per cent. of the foods imported into the United States since July 1 has been found impure and unfit for consumption. They will all be destroyed or returned to the countries from which they were shipped. This will give some of the foreign countries that have been over zealous about investigation of American pork an opportunity to know that the law of reciprocity works all 'round. In this connection is the fact that Secretary Wilson has just appointed Prof. George E. Colby of the University of California as special agent to make analysis of food shipments to California ports.

A PURE FOOD LAW.

The next Congress of the United States will take up the law passed by the last Congress and amend certain parts thereof, with a view, it is said, to establishing a uniform system of labeling products which are not now labeled, or which are only labeled to conform to local laws in certain States.

During the recess, the Department of Agriculture has been engaged in preparing standards for food products in accordance with the law passed by the last Congress. While the government has not the authority to prohibit the sale of adluterated foods, a long forward step is embodied in the law giving to the Secretary of Agriculture the right to fix the standard of purity for foods, drinks, and condiments.

Dr. Wiley, chief chemist of the Department, has been assigned to the duty of fixing standards. He is an advocate of a pure food law, and believes the next congress will enact one. "So far as mere health is concerned," said Dr. Wiley, "the country could get along pretty well without a pure food law, because if a man gets sick from eating something, he finds out what it was that made him ill, and avoids it in the future. Of course, I do not minimize the importance to health or pure food, but the real benefit from such a law would be in the promotion of honesty in trade.

"Some of the States have laws that require a particular kind of label. Hundreds of manufacturers are required to manufacture and carry certain products in many different ways to suit the local laws. A national law would do away with all this annoyance, which is now beneficial to nobody."

California has a law which in some particulars goes a long way toward remedying faults that existed among producers of certain commodities, but it is local in its character, not so effective nor so far reaching as a national law would be. It would be to the interest of the country at large if a national law were passed governing the production of all classes of foods; for by such a measure not only would the manufacturer of adulterated foods be stopped but many poisonous articles now used as preservatives eradicated from use. The country stands much in need of a pure food law with restraining clauses and penalties sufficient to insure its strict observance.

Dr Aladar Navay, Royal Hungarian Agricultural Commissioner in Paris, France, reports to his government that the spring frosts nearly ruined this year's fruit crop in France, that there are few apricots, peaches and plums left over from 1902, hence prices are high. The same is true, to almost the same extent, of pears and apples.

RURAL FREE DELIVERY

The suggestion made by the Post Master General to reduce the appropriation for the Rural Free Delivery does not meet with public favor, no branch of the public service having proven more universally useful and therefore popular. It has revolutionized daily newspaper business, bringing the city paper in touch with the farmer at whose home it comes at a reasonable early hour in the day. It gives him not only the news of the world, but the markets each day, and enables him to judge intelligently what his product is worth before he reaches his local market. So to him the free delivery system is of incalculable benefit. Of course it is an expensive matter to provide the entire country with free mail service but it is now a necessity and the service has come to stay. The Postmaster General's recommendation to reduce the appropriation for this department probably came from the exposures recently made of dihonest officials whose peculations from the goverment were so enormously large as to freighten the post office officials. The estimate for the ensuing year provides for a larger appropriations from congress than has ever before been allowed it. It is expected that the amount will be in the neighborhood of $20,000,000. Last session $12,500,000 was allowed, of which $9,000,000 was for maintenances and the remainder for new service.

Under authorization of congress, there have been established since last July 1390 new routes, and there are 2100 that have been agreed on, and are yet to be put in operation this year. It is expected that by the end of the present fiscal year there will be in all 21,000 routes in operation. The estimate is made that it will take $12,500,000 to operate the routes that will be in existence at the end of the year, and $9,000,000 more will be asked to establish additional routes.

It is not unlikely that congress will appropriate a deficiency allowance amounting to $700,000 or $800,000 to provide for new routes that are put on this year, says the Washington Post. This was the way the rapid establishment of new routes last year was provided for at the last session. Congress appropriating for that purpose $500,000. Notwithstanding the embarrassments of the pending post-office investigation to the rural service, there is no disposition on the part of the president or among the members of congress to allow the system to suffer from what has occurred in the administration of the large appropriations that have been so willingly furnished.

In bulletins Nos. 151, 152 and 153 the California Experiment Station discusses the arsenical insectisides, the correlation of the dose of cyanide to the size of the tree in fumigation, and the use of distillates for spraying. As all of these bulletins can be obtained for the asking we attempt no analysis of their contents. There is evidently a good deal of money wasted by excessive or insufficient use of cyanide in fumigation, as is made evident by the wide variation in practige in the amount used. If those who use least use enough, others waste material. If they do not the work is imperfectly done. The whole subject is discussed in bulletin No. 152. The matter is of interest only to citrus-growers, as deciduous fruit will not bear the cost of fumigation. In regard to the use of distillate sprays the conclusion is reached that two sprayings per annum must be counted on as required to keep citrus trees as free from scale as they will be after one fumigation. If more than two are required the cost will exceed that of fumigation. The question is as to the possibility of always killing the scale without serious injury to the tree or fruit. That is not fully worked out, and further study is required. Distillates do not seem to injure lemons. They do in many cases injure oranges. What has been learned to date is fully discussed in bulletin No. 153.—San Francisco Chronicle.

John Alexander Dowie, of Chicago, is coming to San Francisco to found Zion City.

PRESERVE DEEP WATER FRONT.

The proposition to turn over 2500 feet of water front at San Pedro, to a private party to be used for a private enterprise is monstrously wrong. That harbor belongs to Southern California and is vitally essential to its development. That there should be found in San Pedro, a single man who favors the proposition is beyond belief. If Southern California is ever to attain commercial importance it must have free harbors. Los Angeles is naturally interested in San Pedro and must see to it that its grand harbor is not frittered away in some useless franchise. The Los Angeles Chamber of Commerce has already taken action in the matter, a special committee, after making an investigation of the situation, having adopted the following resolution:

"Resolved, That we would respectfully petition the Board of Trustees of San Pedro that they refuse to grant this lease or any other form of lease or franchise that will alienate any portion of the deep-water frontage now remaining with the City of San Pedro, and we take this occasion to assure the authorities and the people of that city that the commercial interests of Los Angeles and of Southern California are so directly involved in this question of the freedom of the harbor frontage, that the alienation of that frontage must be treated as a matter of more than local importance and one in which the Chamber of Commerce of Los Angeles and other interested bodies should be given the right to be heard."

The Los Angeles Times truly says this resolution truly states, the matter is one of more than local importance—far more. The members of the Old Guard that did such brave work for a free harbor must hold themselves in readiness for further action, and to their ranks should be added all public-spirited newcomers who are interested in the progress and prosperity of Los Angeles and Southern California."

Bulletin No. 154 of the State Experimental Station is devoted to a discussion of sulphur sprays for red spider. The discussion is interesting and of value to orchardists. The use of sulphur as a removal agent for red spider has long been known. It is the common specific for the past years before the present remedies were adopted. Sulphur spray did effective work in cleaning orchards of mites. The sulphur will kill the mites and will not injure the trees. The trouble is to get the sulphur to stay on the trees and do its work. It has been nearly always used dry and been applied when the trees are wet. The sulphur, of course, remains until the trees dry off, when much of it blows away. Efforts have been made to find some satisfactory mixture of sulphur and some agent which would cause it to adhere while not interfering with the effectiveness of the sulphur.

The irrigation problem is the great problem of this age—especially to California. Where water can be procured land is worth gold, where it cannot be produced it is worth simply what it will bring. It is no wonder then that men prominent in the irrigation thought should be pronounced in their views as to the benefit irrigation is, and will be, to this state. The delegation to the Irrigation Congress from this state was made up of the ablest men in that body. It is to the credit of those men that their efforts were exerted in work, not in talk.

Governor Pardee's address at the Irrigation congress was one of the strongest arguments presented to that body. It has attracted general commendation and is being widely quoted in the press of the country.

Farmers' Clubs throughout Southern California are being enthusiastically attended. When interest flagged in any of them it has been quickened and renewed effort is being created all along the line.

The trunk lines of the East are reaching out for Southern California trade. The next great railroad to invade this territory is to be the Gould system. A three days' schedule is promised to St. Louis.

The quail season opens October 15.

The seed crop of Santa Clara county is excellent, except sweet peas.

A Farmers' Institute will be held in Fair Oaks on the 16th and 17th inst.

The open season for ducks begins October 15th. They are plentiful on California inland waters.

There comes a call from the Philippine government for 150 male teachers. The salaries range from $900 to $1200.

One thousand bales of Oregon hops were sold at Portland October 1, at 25 cents. The goods were of prime quality.

Luther Burbank will receive a beautiful gold medal for his exhiblt at the State Fair of new hybrid fruits and flowers.

Watsonville apple growers say they will send apples to be exhibited at the St. Louis World's Fair that will beat the world.

Forty Boer families from South Africa are on their way to America. They will settle in Mexico. Others are to follow.

The fresh fruit shipping season of Solano county, now drawing to a close, was decidedly successful—more so than ever before.

Wheat in Minnesota is now selling at $1.00 per bushel—the hard, red type grain. The Macaroni does not bring so high a price.

Robert, Harry and George Mitchel, who own large copper mines in Mexico, are seeking a location on San Francisco bay for a large smelter.

It is now conceded that the State Fair just closed at Salem, Oregon, was equal to the California fair. Premiums to the amount of $12,800 were paid and the fair closed with $6000 in the treasury.

The green fruit shipping season in Solano county has about closed. The total number of car loads shipped from Vacaville for the season ending September 25, was 1052, as against 779 cars last year.

Prof. Geo. P. Colby, of the State University, the well known chemist, has been appointed by the Secretary of Agriculture to make an examination of food products imported from foreign countries, received on the Pacific Coast.

The city of San Francisco, at a special election held last week, voted to issue twenty millions of bonds to be expended in public improvements. The streets are to be improved, new hospitals and school houses erected, parks established and other improvements made.

A nine-months-old corn-husking dog is the latest thing along the Wabash. It watched its master husk corn one day and then began tearing the husks from the ears as fast as an average farm hand could do it. The next day the dog did several hours' work in the field.—Exchange.

It is expected that 3000 delegates to the National Bankers' Annual Convention will be held here on the 20th inst. The convention will be in session three days. The San Francisco bankers here raised a fund of $35,000 for the entertainment.

For several miles along the coast near Santa Cruz, the beach is strewn with millions of Spanish mackerel from eight to ten inches in length. The cause of the phenomenon is not known. Spanish mackerel are one of the best of the food fishes.

Geo. C. Hussman, U. S. Viticulturist, will at a distant date establish an experimental station for grapes on the Mojave desert. He believes grapes can be made to grow there. He has a theory of his own, but is not yet ready to give it to the public.

W. S. Melick, Secretary of the State Board of Examiners, reports that California has forty-two orphan homes in which are 974 orphans, 4251 half-orphans, 450 abandoned children and 260 foundlings. For the six months ending June 30th these cost the State $189,765.25.

The transport Sherman left San Francisco October 1, carrying $2,000,000 from the mint to the Philippine Islands. The September coinage of the mint of that city was 180,000 double eagles, 465,000 eagles, 108,000 standard dollars, 440,000 half dollars, 41,330 dimes, 2,004,000 pesos.

Coast News and Notes

By R. A. Dague, Cor. Sutter and Sansome St., San Francisco

A co-operative winery is to be built at Lodi.

Drouth has injured the North Carolina tobacco crop.

Fresno is to have two hundred miles of electric railway.

The California wine crop is 20 per cent greater this than last year.

The Chico friut company have shipped about 100 carloads of prunes to France and England this season.

Two children of Mr. and Mrs. Joseph Gould, near Woodland, died a few days ago from poison due to eating green almonds.

Baker & Hamilton recently sold a bean thresher to Scatena Brothers, below Sacramento, which threshes and cleans 100 sacks of beans per hour.

The latest reports as to the wheat crop in Minnesota and the Dakotas is that owing to a soaking from heavy rains, the damage is placed at $15,000,000.

The grape growers of the state are dissatisfied with the prices fixed for grapes this year and a movement is on foot to organize a state grape growers' association.

The consumption of coffee in the United States has increased till it is now estimated that we consume a little over twelve pounds of coffee per capita annually.

The prune growers of the Santa Clara valley are still holding out for a three-cent basis. Buyers at this writing are offering two and three-fourths to two and seven-eights cents.

Sixty box mills have been consolidated into one combine under the name of the California Pine Box and Lumber Company. It is capitalized at $5,000,000 and its headquarters will be in San Francisco.

The Woodland cannery has been in operation two years. Its work this year is summarized as follows by its managers. Peaches, 10,000 cases; apricots, 8,000 cases; tomatoes, 20,000 cases; beans, 1000 cases.

Ventura county this year took first rank as a honey producing county. There are in that county 10,000 bee colonies; they produce 1,200,000 pounds or 40 car loads of honey annually. The industry brings into the county $50,000 per year.

The grape shipments from California this year are phenomenal as compared to former years. The grape season will last two or three weeks yet. At this writing the total car loads shipped are 700. Last year only 316 car loads went out.

The Merrit Fruit Company of Santa Rosa is now packing and shipping to foreign markets two carloads of prunes daily. The McDonald Warehouse Company is doing about the same amount of business. The fruit is going to France and Germany.

Major J. P. Harney, general manager of the Sacramento Transportation Company, says the wheat of the valley is now well under cover, and farmers will suffer little or no loss from rain. The steamers will soon begin loading and moving the grain.

Elwood Cooper announces that he expects to have a report read at the Fruit Growers' Convention at Fresno, December 8, from George Compere who is now in Africa looking for a parasite for the fruit fly; also his report on the parasite for the codling moth he found in the south of Europe.

The fruit crop of Great Britain was very poor this year, hence the fine market there for American fruits. California is sending John Bull more fruits than ever before—pears and plums especially. The following are the quotations from London at this writing, per box: California pears, $1.94 to $2.30; California plums, $2.43 to $2.91; Bartlett pears, $1.82 to $2.30; peaches, $2.43 to $2.67.

California is to have six Government stations for testing the possibilities of the grape. So far Viticulturist Hussman has decided on four places, viz: Oakville, in Napa county; Mountain View, Livermore and Fresno. He will collect grape vines from every county in the state with which to make his experiments.

Both Monterey and Santa Cruz counties are attracting wide attention by means of placing upon the markets apples which are unexcelled in quality.

R. M. Teague, of San Dimas, has just issued the third edition of "Citrus Trees," a beautifully illustrated pamphlet of fifty-five pages. Mr. Teague is probably one of the most successful fruit tree growers on this coast, and is fast acquiring a reputation which brings him orders wherever citrus trees are grown.

Dr. Archibald H. Ward, of the California poultry experiment station, has, after considerable investigation, found that the fowls of various portions of the state are more or less afflicted with tuberculosis. He says he knows of no cure whatever for the disease. It can only be controlled by keeping the sick fowls away from the healthy ones.

A new horticultural society has been organized at Boston. Its purpose is to make a scientific study of botany and chemistry, and to promote the scientific aspects of horticultural investigations—in short to systematize horticultural knowledge now in such chaotic condition into a more scientific form. It hopes to interest horticulturists in all parts of the country.

The Southern Pacific Company has made a careful calculation of the bean crop in Southern California and their figures differ materially from the estimates given out a week or two ago. Here are their figures: In Ventura and Santa Barbara counties 600,000 sacks; Los Angeles county 100,000 sacks; Orange county, 50,000 sacks. This estimate is about 100,000 more sacks than a late estimate made by other parties.

The superintendent of the Santa Fe fruit line has made the statement that he has calculated that the haul this season of fruit over that line will amount to 17,000 cars. That is an increase of 3500 over last year. The company has just given an order for 500 new refrigerator cars. They now have in use 3500, independent of the Armour line and other companies operating private cars.

At a regular meeting of the Santa Rosa Poultry Association, recently held, the name of the Co-operative was changed. It is hereafter to be known as the Sonoma County Poultry Association. The newly elected officers are: Charles Gillett, president; James Cahill, secretary; W. J. Dillard, treasurer. Following this action a new poultry company was organized, they taking the name of the Santa Rosa Poultry Aassociation. J. J. Fitzgerald will be secretary and manager. The other officers will be chosen later.

The California fruit distributors estimate that this year they will ship from this state about 7500 car loads of deciduous fruits, sent to 125 Eastern cities. The net returns of this fruit to Californians will be about $500 a car. Thus the growers will receive through their organizaztion the large sum of $3,600,000. They say they are handicapped seriously in one respect. Fruit is shipped in refrigerator cars, icing stations are forty hours apart. Too frequently the ice gets low and fruit is damaged. They demand better service hereafter of the railroads.

The stocks of wheat on hand in Central California on September 30 in the warehouses were as follows:

Tons at—	1902.	1903.
San Francisco	2,038	2,964
Stockton	43,512	37,098
Port Costa	41,438	11,250
Totals	86,988	51,312
Decrease		35,676

The stocks of barley at Port Costa and Stockton were as follows on September 30th:

	Port Costa.	Stockton.
1903, tons	51,977	16,537
1902, tons	45,952	9,318
Increase	6,025	7,219

The total stock of barley in Call Board warehouses, September 30, 1903, was 41,467 tons, against 64,000 tons September 30, 1902.

The price of silver bullion is now 59 cents an ounce, the highest price since July 1, 1901.

Edward A. Beals, of the Weather Bureau, estimates that there are now 7,000,000 acres of irrigated lands in the United States.

It is feared by prune raisers in some sections of the state that this seasons' output will fall below the yield of former years to considerable extent.

The Earl Fruit Company having recently shipped quite a quantity of fruit from San Jose to Australia are now making up four car loads of silver prunes and pears for London.

The cotton crop of Texas has been damaged fifteen per cent. by insects. The estimate of the probable yield is now placed at 2,500,000 bales, a reduction of 500,000 from former estimates.

Edward W. Parker, of the United States Geological Survey, reports that for the first time in the history of this country the production of coal has reached a total of 300,930,659 tons, valued at $373,133,843.

W. C. Stone, state statistican, has completed all copy for the "State Blue Book." It is about ready for distribution. It contains a vast amount of useful information for the farmer as well as those of other callings.

The subject of good roads is engaging the attention of the people of several states. The legislature of Pennsylvania recently in session appropriated $6,500,000 for road improvement, to be expended within the next six years.

Newspapers in Southern California appear to be sharing the general prosperity which attends other business. The Riverside Enterprise has just put in a duplex press and a linotype, thus giving the paper one of the most complete plants in this part of the State.

Cosmo Morgan, agent for the American beet sugar company received on the 1st instant, at Los Angeles, a telegram stating that a difference of 20 cents had been made between cane and beet sugars, a drop of ten cents 1or the beet product. The unexplained feature of the case is that a difference of only 15 cents has been made in the San Francisco territory as against 20 cents in Los Angeles, and the price of beet sugar is no longer uniform over the coast.

Quite recently the fact has developed that California is to have another trans-continental railway. It is known as the Western Pacific. It has just applied to the harbor commissioners for terminal privileges at San Francisco. It has purchased terminal facilities at Oakland. To the southward surveys have been made and rights-of-way secured. The line will run from San Francisco to Los Angeles through Bakersfield, San Jose and Santa Paula.

The Sacramento Valley Development Association, at a late meeting, planned a great deal of work to be done in the way of advertising their attractions. They will scatter broadcast a great quantity of literature. This literature will be well illustrated by pictures of orchards, farms, scenery, etc. Large signs containing suitable lettering will be strung through the valley, to be read by passengers on the cars.

Prof. Stubenrauch has publicly stated that he is authorized to say that the agricultural department, at Washington, asks that donations of fifty acres be made to the government on which the department may establish gardens for the purpose of testing trees, plants and seeds. If not donated a low rental only must be demanded. The land must be choice as to soil and have some hill and some level lands.

Dr. N. K. Foster, secretary of the State Board of Health, claims that the rapid dying of the ground squirrels in Contra Costa county is not due to any inoculation by professors of the State University but from some unknown special disease. The doctor says he will make a thorough investigation of the matter and if he decides that there is no danger to human beings, he will use the virus from the dead squirrels in killing rats in other localities.

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

MY CHICKENS.

(Continued from first page)

ens. The hatching from the first was successful. Of course there were accidents and disappointments. One incubator full was lost by a little boy amusing himself with the regulator when I was out, he cooked over two hundred chicks in the shell, another incubator with a disc went wrong, the ether had evaporated and another hatch was cooked. The cat slept on top of an incubator and the regulator and cat failed to regulate, and the chickens failed to materialize. Provoked sometimes, but not discouraged I kept on and as the days flew by the accidents grew fewer. Accidents with

Indian Runner Ducks.

the brooders also occurred, lamps smoked and instead of White Rocks I had smutty gray chicks, and at other times two whole brooderfuls were suffocated by the fumes. Heart aches these were. The profit side of the ledger, notwithstanding these accidents, showed a very healthy increase.

Then I began to advertise and to exhibit my fowls. The advertisements hatched out buyers as effectively as the incubators hatched out chickens. I had good fowls and told people in simple words what I had and whenever I had an inquiry by mail I answered promptly. I was patient with people who only came to see the ranch and ask questions. I tried to treat everybody liberally and especially to help women, who were struggling with the same difficulties I had experiensced.

Pleased customers and judicious advertising gave a greaat impetus to the business. Every cent of outlay was carefully considered and, though the best grain was purchased for the fowls, it was bought direct from the mills, and as far as possible purchase and sales were made at first hand.

To make a success of the poultry business close peresonal supervision of every detail is necessary, not only in the hatching and brooding, but in the buying and selling. It is the close attention to the little things that in the end makes the business pay.

In the fancy poultry breeding close attention must be given to fancy points. The American Standard of perfection must be carefully studied, those fowls that do not come up to standard requirements have to be discarded from the breding pens and must be prepared for market purposes. The cockrels are caponized. This is done to render the flesh more juicy and tender when it commands a higher price, just as steer beef brings a higher price than bull beef. Caponizing also quiets the cockrels, they do not fight and scrap, can be kept more closely crowded or allowed to run with the hens. They are no longer restless and turbulent. They spend their time in growing and putting on flesh instead of quarreling amongst themselves and annoying the hens.

Twice a Day They Claim Their Ratio s.

All chickens for market are stall fed from two to three weeks in the French fashion. They are placed in fattening coops in a darkened place. Three times a day they are given a feed of oatmeal, corn meal, barley meal and wheat middlings mixed with milk. They are given all they can eat in twenty minutes, then the food is removed and water is left for them. Before killing them they are kept twenty-four hours without food, then dressed for private customers who gladly pay from ten to fifteen cents a pound above market price for the sake of getting so toothsome a dish. The feathers being white and from perfectly clean fowls are well worth saving, white feathers commanding the best prices. The income from the sales of fatted fowls, those that are not worthy a place in the show room, is quite a large item.

Laying for Business.

Eggs from pullets or immature hens are sold for family use and, being guaranteed perfectly fresh, bring five to ten cents above the market price. The broilers and fryers, capons and roosters, as well as eggs for table use are merely side issues to the main business of breeding and raising prize winners, and of selling eggs from them for hatching. None but a fancier knows the pleasure of this, and the close attention necessary. A hearty laugh from a visitor was elicited by my asserting that I knew the father and mother, grandfather and grandmother and even the great-grandfather of a promising young cockrel. He came from prizewinners. Time would fail me to tell of the fascination of this mating and breeding for prize winners. They say some women are born matchmakers, and to make correct matings in the poultry yard is almost as serious a study as in the human family, but to the successful matchmaker it is intensely interesting. Twenty-seven prizes won by my White Rocks at the last show are a proof of my success as a matchmaker.

A friend arriving from Australia, brought with him two pair of Indian Runner Ducks, so-called from their activity and from their originally being natives of India. These he asked me to keep for him for a year. I soon saw their great value as prolific layers of most delicious, delicate white eggs, quite different to the coarse, strong tasted pekin eggs. And I found that coming from a tropical country they were wonderfully adapted to dry weather. I bought them. They had averaged 223 eggs per duck in one year. Realizing the necessity of fresh blood, I bought two strains of the best blood in the land, and again found myself launched in a new and very profitable side issue. These ducks are as fine flavored as canvass-backs and bring a good price on the market.

Two other side issues white Holland Turkeys, and Mammoth English Runt have also proved profitable and interesting investment.

* * *

ANSWERS TO CORRESPONDENTS.

Editor Cultivator: Will you please have the lady who gave us such a fine talk on how to raise eggs for profit, and who runs the poultry and egg factory in your valuable paper, give us the cause, prevention, and remedy for weak legs in Indian Runner ducks. Also the most profitable number to keep in a flock.—W. S. M., Upland.

There is something wrong in the management of ducks if they are weak in the legs—the food has not enough bone making, (or protein) in it, or they are in some way weakened—have been fed a very fattening ration or chased and freightened until they are lamed—feed them according to the directions in the Cultivator of March 20, giving plenty of shell and grit. Ten ducks of the Indian Runners to one drake is the best number, be sure not to in-breed.—Mrs. A. Basley.

A Pen of Beauties.

A Plymouth Rock Prize Winner.

A WISE OLD GANDER.

A writer in Our Fourfooted Friends relates the following story of an intelligent gander: One morning he came up alone. He evidently had something on his mind; he was troubled. He bowed three times (he was ever polite) and said something I could not understand, and then walked back along the path to the corral. Finding I did not follow, he returned and bowed again and said something. Then he walked down the path again, and it occured to me that he wanted me to follow, which I proceeded to do, evidently to his great satisfaction.

He led me down to the irrigation ditch, where I beheld the whole flock seated in a circle around his favorite goose, whose leg was caught in a steel trap sat to catch foxes. They appeared to be encouraging her with consoliatory remarks, and my appearance was greeted with wild shrieks of delight. I released her and received the thanks of all, with an especial speech from him. The goose was not hurt, and her mate noted his satisfaction with many caresses.

EGGS FOR HATCHING

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Price according to quantity and market quotations. Address

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STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS.

Eggs and Stock for sale at reasonable prices

INDIAN RUNNER DUCKS

White Leghorns and White Rocks

Eggs $1 a setting; $5 per hundred

Foster's Fowlery Florence, Cal.

One mile south of Los Angeles limits.

FOR SALE

Thoroughbred Buff Plymouth Rocks, Shepherd strain, Ohio.
Thoroughbred Buff Orpington Eggs, $1.00 pe 15.
5 Cyphers Outdoor Brooders.
1 Modern (hot water heat) Brooder Building, 600 chick capacity.

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Only Birds that have

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are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.

CAPTAIN MITCHELL
SANTA BARBARA, CAL.

POULTRY MAKES MONEY

To keep poultry successfully requires as much knowledge as any other live stock industry, yet for the money invested it yields the largest profits. From my experience, which is that of the average farmer, I conclude that plenty of grain fed in litter, with fresh water before them all the time, will make hens pay. As most farmers are situated it is not possible to feed much meat, yet what there is should not be wasted.

As to feed, corn is the most important, the cheapest and yields the largest returns. But as corn is too high to feed in California oats comes next. Wheat is too costly, except for chicks. Alfalfa hay should form an important part of the winter's feed, as its bulk tends to neutralize the solidity of grain. Potatoes, beets and cabbage are easily grown and form cheap winter feed. Pure-bred fowls should be raised, as they pay better than mongrels. The poultry business will never be overdone as long as beef remains at its extortionate price.

POTATO BEETLES AND HENS

I do not think my hens have a depraved appetite, rather a very natural one, though I suspect some will not agree with me when I say that they have an appetite for potato beetles says a writer in the Poultry Advertiser. For the past two years my neighbor and myself have raised potatoes on lots adjoining our poultry houses. About one-half or three-fourths of an acre for 150 hens. True, hens have been kept on the same ground, not in yards, for a dozen years or more. Quite likely there are fewer insects than in former years. Possibly the taste of potato beetles is partly cultivated, but the scheme at present is a success and is worth trying by others.

My neighbor is quite a successful poultry keeper in connection with his regular farm work. I called to see him feed his hens one day, for I heard he had an improvement on the "morning mash." He feeds in the morning ground oats and corn, or bran and corn, but puts it in the feed troughs dry, supplying plenty of warm water in the drink dishes. The fowls will run back and forth from feed to drink frequently and seem to enjoy mixing their own mash. Whether the hens pay just as well, I cannot say, but they seem to like the feed and they pay a handsome profit. Of course, they exercise a little, and for what I know the dry feed may be better for them. There is no doubt that horses do better when fed dry grain. I haven't dared to try my hens the new way except as occasionally I give a little the second time around, when I go through to see if any have too much or too little feed. I think I shall experiment a little but not much until I am more certain it is right.

Dampness and draughts are the main cause of roup in poultry. Keep the fowls in a dry warm place, and there will be little if any danger from this disease.

Five hundred hens properly managed on a farm will support a good sized family, leaving the proceeds of the farm to pay off the mortage or to invest in more land.

It is a mistake to think that ducks cannot be raised without a swimming pool, as they need only enough water for drinking purposes.

The guinea fowl is the best insect destroyer among fowls, as it eats many insects that other fowls will not touch.

Ground mixed feed is all right for poultry, but it should not be sloppy, nor so soft that it will all fly to pieces and scatter when it is thrown on the ground.

If there is any better feed for hens than the table scraps, it has not yet been found. It will pay better to feed them to the poultry than it will to the pigs.

Chickens are like cattle in this, that it costs no more to feed purebreds than it does scrubs, and they pay much better.

ROUP AND CHOLERA

Say! Mr. Poultry Raiser? How about your chickens? Are you bothered with Roup and Cholera in your flock? Have you tried everything from "Pink Powder for Pale Poultry" to the magnetic treatment, without success?

PALMER'S POULTRY POWDERS

Trade Mark

We have what you've been looking for — a guaranteed cure for Roup and Cholera—something that cures in every case if used according to direction. Palmer's Poultry Powders—the only infallable remedy ever offered the public for Roup and Cholera. Manufactured in your own State by the

PALMER POULTRY POWDER CO.,

102 South Spring St. Los Angeles, Cal.

Palmer Poultry Powder Co.,
Los Angeles, Calif.

Gentlemen: One of my neighbors recommended your roup remedy and I used it on my chickens. They are now entirely well, and I can't speak too favorably of it. I tried seven remedies in three months without satisfactory results, but from now on your roup remedy will always find an admirer in me.

Respectfully,
MRS. LIDA STANLEY,
143 East 18th Avenue, Los Angeles Calif.

Los Angeles, Calif., Oct. 5, 1903.

This is to certify that I have used Palmer's Poultry Powders for roup and cholera with gratifying results. My chickens had both roup and cholera. My husband brought home a sample of both remedies, which I used, and now have no disease among my chickens. I can't recommend it too highly. It is all it is advertised to be. I would not take ten times its price and be without it.

(Signed) MRS. T. F. MINOT,
942 W. 32nd St., Los Angeles.

Palmer's Poultry Powder Co.,
102 So. Spring St., Los Angeles.

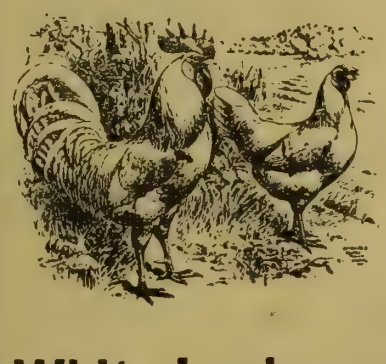
I started in the chicken busines in a small way almost six months ago, and found roup a barrier to my flock until last week, when a friend asked me to try your remedy as it was sold under a guarantee. I followed her advice and today my chickens are in a healthy condition and no trouble whatever. I'm glad to express my gratitude to the manufacturers of the wonderful roup cure and gladly recommend it to others.

J. T. MIKLEMAN,
Anaheim, Calif.

Oct. 4th, 1903.

To all whom this may concern: I hereby certify that I had both roup and cholera among my chickens. Two doses of Palmer's roup remedy cured my chickens of roup and the cholera remedy was equally effective. I don't think Palmer's Poultry Powders has an equal on the market today, and I would not be without it while I keep fowls for three times its price.

(Signed) E. T. RIDGEWAY,
1000 Maple ave.



White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices. **G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.**

Don't believe all we say but just enough to try our Poultry foods.

Emery's Pure Meat Meal Emery's "B. B. & B."

Ask your nearest dealer for them and take no imitations.

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

WHITE PLYMOUTH ROCKS

GIVEN AWAY

"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.

Eggs—13 for $2.00.

INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2 50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.

Mrs. A. Basley

Near Los Angeles, Alma St. Prospect Park, Cal.

100 Per Cent. Hatched.

In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with

PETALUMA INCUBATORS.

This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free. For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.

MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL.

„A Journey to Invisible Cities„

With Some Notes on Agricultural Conditions Between Stops ✕ ✕ ✕ ✕

Rivers of Water, Richest of Soils, with Climate That is a Genuine Warm Number

Fattening Cattle on Farm of D. G. Whiting.

AN IMPERIAL TRIP.

For the past two years the worth of a vast "worthless" section of California—a part of the Colorado desert—has been told to home-seekers. It is a section the proof of worthlessness of which has been established by a large number of deaths of hardy prospectors who have ventured into this dreary vastness and succumbed to terrible thirst and heat. But today the pioneer is erecting the first homes and cultivating crops which are making good the promise of the promoters who have investigated, planned and developed a wonderful system of irrigation.

A HALF MILLION ACRES.

We refer to Imperial, the oasis in the desert. Imperial, with its half a million acres of wonderfully fertile land and a half a million of inches of water and a climate which makes Jack's bean stalk almost a possibility.

This land lies on the extreme southern boundary of California, from which it extends north fifty or more miles to the line of the Southern Pacific in a body twenty to forty miles wide. All told about 3000 square miles of this land may be covered by water in both California and in Mexico. This body lies in a position a little east of the center of the state line from the Pacific to the Colorado, and is 188 miles from Los Angeles.

The slope of the land covered by the system is north and west from a depression of just one foot below sea level at Calexico to nearly a hundred feet below sea level in its lowest portion. Of course the lowest portion of the Salton sink reaches the remarkable depth of 280 feet.

IT BEGAN.

The bold idea of reclaiming this vast area occurred to a man by the name of Wozencraft 'way back in 1856. He took the matter to the national congress and in '58 a bill was introduced to grant a vast body of land to him on condition of the construction of a canal and irrigation system. But the days of the civil war arrived before the bill could be passed and the matter was dropped till taken up by the Arizona & Sonora Land & Irrigation Co. in 1891. The company was also known as the James Beatty Co. This concern spent some $175,000 in investigation and in maintaining offices. The engineer who had charge of the preliminary work of this company was C. R. ("Colorado River") Rockwood.

PARTIAL FAILURE.

This company went to pieces without results, but Mr. Rockwood had secured information which gave him such faith in the enterprise that he proceeded to interest capitalists. A. H. Heber and other capitalists took up the work and organized a company known as the California Development Co., also another company, practically the same, under the Mexican laws, to control the canal which, through most of its length, passes through Mexican territory.

BEGINS TO DO THINGS.

This company was on the verge of going to pieces in '99. L. M. Holt finally secured the financial support of George Chaffey, and though he later retired from the company was the means of giving the company an impetus which ultimately led to success.

A. H. Heber is president, C. R. Rockwood first vice president and general manager, F. C. Paulin second vice president, R. T. Perry secretary and W. T. Heffernan treasurer. This company has to do only with the construction of canals, the disposition of water, etc.

LAND AS WELL AS WATER.

Another company, the Imperial Land Company, for acquiring and disposing of land, has been formed. This company is under the general management of F. C. Paulin and that pioneer promoter and journalist, L. M. Holt is advertising manager.

A LOW DOWN EXCURSION.

By invitation of these gentlemen and under the guidance of a party of newspaper men, some with their wives, and all told over thirty people, made the trip to this section of the Colorado Desert last week. The start was made via the Southern Pacific, a standard Pullman being at the disposal of the party for the four days of the trip.

The start was bright and early on the morning of October 3d, with a jolly party aboard. The first thought was to get information of the Imperial valley—some who had been before, to compare notes—and secondarily to allow no moment to pass without some fun aboard.

Mr. Holt had characterized the event as a "Low Down Editorial Excursion," because for "three days, one hour and forty-four three days, one hour and forty-four minutes—from Indio to Calexico and return—the excursionists will be below sea level."

DOWN AMONGST THE MERMAIDS

At Salton our lowest point was reached—263 feet below sea level. The salt plows and scrapers, with great piles of salt, were seen from the train. A wonderful mirage with a beautiful sea dotted with islands was approached, but kept receding. We thought of the many cases in which the prospector, dying from thirst, has seen just such scenes.

BRAWLEY.

At Brawley, still below sea level 65 feet, our first stop is made. A number of carriages were in waiting, and the party were driven several miles to the banks of the New River, where a great trestle carries the canal across the chasm. A view of this trestle appears on first page of the cover of this issue.

The banks of the river which are cut down to a depth of forty feet show no change from top to bottom. Fine loam soil at top, fine loam soil at middle and not a particle of difference at the bottom.

The condition about Brawley is such that a person with an eye to agricultural development may readily see a wonderful future for that section. As yet the original desert condition prevails in most of the surrounding country. The only thing which indicates its coming wealth is the lines of the canals carrying the life-giving water. These are uncrossed by bridges, so that the drive took us down into some of the deeper ditches nearly to the wagon bed. Occasionally a cultivated field was passed where there was either alfalfa, Kaffir corn, sorghum, Egyptian corn, Milo maize, millet or other fodder or forage plants, showing how prolific may be this entire section. In the entire ride over this valley not a single animal was seen that was not sleek and in the best of condition. The land is as a rule, as even of surface as a table, excepting for an occasional hummock where the drifted surface soil has been caught by the wind and lodged against growing vegetation. The cost of leveling and clearing this land varies from fifty cents to three or four dollars per acre. The slope being so exceedingly gradual, the erecting of low banks which follow the contour of the land, makes irrigation of large areas possible at very light expense. A forty acre field will have but very few of these checks or contours and after the first irrigation when the banks become settled, the flooding is so simple as to be done with scarcely any labor.

On the return to Brawley a dusting up was followed by a good supper and at our car later we were met by a delegation from Imperial headed by Editor Howe of the Press.

IMPERIAL.

Mr. Howe and his committee endeavored to convince the visitors that there were things doing in Imperial which would make the eyes bulge. He was informed that if there was not, there would be when the visitors arrived and found something to eat. The run from Brawley to Imperial required but a few minutes.

The city of Imperial, the "center of the universe," is located 65 feet below sea level and has as yet a look which partakes somewhat of rawness, but from the way the agricultural implements and other evidences of things doing, it is apparent there is an endeavor to wear off any such appearance. The first and most prominent feature noticed as we emerged from the car in the morning, was the stock yards on one side of the track and warehouse full of grain and newcomers' families who are forced to bunk in any old place, pending the building of a home. The greatest development observed in the entire settlement is about Imperial. After a hearty breakfast the entire party em-

There Are Seventy-Seve

Grain Stacked Up for Shipment at Imperial.

Field of Milo Maize.

barked for a two days' trip, the first stop being at Silsbee on the shores of Blue Lake. This is a beautiful sheet of water a mile and a half wide by two miles long. The town as yet made up of only two partially completed buildings with a small store in a tent which dispenses the various necessaries of life to the settlers of this vicinity. Luncheon was taken in a canopy by the mesquite immediately on the shores of the lake. Some of the party went out for a short row but the boat not often being used for this purpose, had shrunk to that extent the leaks were such that it took the most of the party to do the bailing to keep it afloat. The ladies did not engage in this pleasure. From Silsbee, which is fourteen miles from Imperial, the caravan took up its way to Calexico, twelve miles further and immediately on the boundary between the United States and Mexico. Here we saw the first blue-grass lawn.

DOWN ON THE LINE.

The principal building of the place is the company's headquarters and hotel, which is all in one building, or rather two buildings some distance apart, but all covered with one great roof and with wide veranda all about the building. The building faces the international boundary line which is but a few feet away. Just beyond is Mexicali, the only Mexican city on lands controlled by the company.

The lands over the line for many miles are fully as rich as on the American side and the company will supply them with water as needed. In fact the contract with the Mexican government calls for supplying some 300,000 acres of that country with water.

COTTON AND CANE.

One of the interesting experiments in the company's garden here is the growing of cotton. A long fiber cotton which has been pronounced by government experts as the best grown. This may lead to the extended production of this high grade cotton, especially over the line where cheap labor may be had. Hawaiian sugar cane, artichokes and other interesting products of the garden were inspected.

The stay at Calexico was all too short. Chief Engineer Rockwood and First Assistant Perry proved admirable hosts, and the home like appearance in contrast with many of the desert scenes was refreshing.

Leaving Calexico about eight o'clock in the morning, the caravan started directly east along the north side of the border, but soon passed over the bridge of the canal which follows the north side of the line, and entered the Mexican territory. The road soon veered to the south and we headed for the Alamo river, from which point the first main canal takes its start for the United States.

A TRIP ABROAD.

The Alamo river serves as a natural canal for this water for a distance of fifty seven miles from the dam at the Colorado river to the headings of the canal near the American line. This was an exceedingly picturesque location and had the appearance of having abundance of duck and other game. The attendant who had charge of the house and watches over the head gates here was congratulated over having a soft snap, with no work to do and with guns and boats handy for pleasure; but he glanced at the different members of the party and remarked,—that it was mighty lonesome work, and did seem awfully good to see civilized faces once more. The stop was but a few minutes, long enough to eat a couple of dozens of water melons upon the banks of the river. From here the road swung back to the American line, within a few miles. We again entered our native land, and congratulated ourselves upon our safe arrival from our trip abroad. The road followed the main canal which runs to District No. 5. On this road we passed some lands absolutely unreclaimed for several miles. In fact, some of the best lands of the entire trip we probably passed on this ride in the section where there are now no farms whatever. Some of this land is rougher than that about Imperial and will require more expensive work in grading. In fact, some of it will be so expensive as to prevent reclamation for many years, when land values become much greater.

SOME ELECTRICITY.

Luncheon was taken on the banks of the Alamo a couple of miles south of Holton. Here a force of men were at work grading and preparing for a large bulkhead across the chasm which is to raise the water on to the plain which will be carried to the city of Holton and there used to develop electric power for use over the entire valley. A drop of some forty feet may there be secured and the contract is already let for the erection of a $75,000 electric plant. After luncheon we embarked for Holton and there the photograph of the party was made by the official photographer of the excursion, on what was said to be the public square of the city. The square seemed to be a circle, for there was no obstruction except the distant mountains in the entire circle. The castles are still in the air, for as yet the corner stake is the only evidence of the city of Holton. The wondering jackrabbit sat under the mesquite, while Mayor W. F. Holton made a welcoming speech and gave a hearty invitation to make our abode in his city.

In driving from Holton to Imperial some magnificent country was passed and some fields of Kaffir corn and Egyptian corn that were truly amazing for the amount of fodder which they are producing.

One of the prettiest places is that of J. H. McKim of Pomona, who has done some of the most effective work in grading, fencing and planting of shade trees. South of this is another large stock ranch belonging to D. G. Whiting of San Bernardino.

A FEAST OF REASON AND OTHER THINGS.

The citizens of Imperial tendered a banquet the last evening of our stay in the valley, which gave the visitors an opportunity to get acquainted with many of the citizens and learn of their work and their belief in their community. One thing was noticeable, there are absolutely no kickers, every one having perfect faith in his community.

With many parting expressions of good will and wishes for a great future for the Imperial valley, our train pulled out at 10:30, with three rousing cheers for Imperial, which were answered by Imperialists.

* * *

IMPERIAL NOTES.

Fifty-seven miles of the Alamo river is used to conduct water to the headings. Two dredgers are constantly at work clearing the channels and strengtening the banks.

There are seventy-sevn miles of main branch canals which carry water to the different companies.

There are eight mutual companies which handle the distribution of the water to the various farms.

The water is delivered to these companies by the California Development Company, but the local management is entirely mutual.

There are eight of these companies, known as "Imperial Water Co. No. 1," "No. 2," "No. 3," etc.

To distribute this water there are 445 miles of latterals which now convey the water to over 200,000 acres.

Of that 200,000 acres, 50,000 acres were cultivated this year, and it is estimated that next year's work will more than double this or possibly reach 125,000 acres.

The possibilities of this section, especially in stock growing and dairying are wonderful. Raisins seem equally so. Other fruits may later prove profit winners, but so far stock is by long long odds the favorite.

At the banquet at Imperial Editor Howe, in his welcome to the guests, referred to the many cities of the valley as the "Invisible Cities." Cities of the future which must be brought into existence to supply the trade which will be created by the settlement of the country.

The total cost of the irrigating system as completed will aggregate approximately $7,000,000.

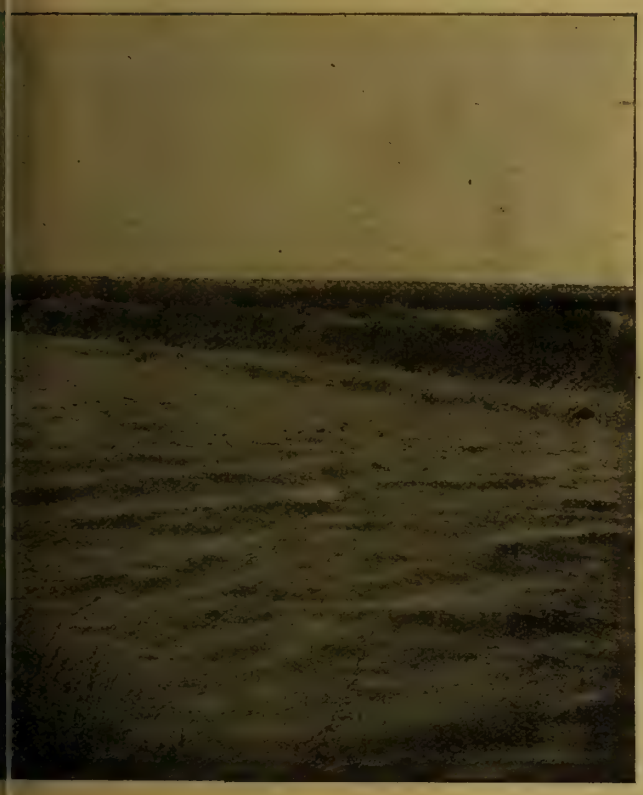
Some of the farmers and stock growers near Imperial gave us some interesting figures regarding cost of production of grain and other crops by irrigation and the profits which were secured from those crops. Space and time forbids them entrance to the paper this week, later they will make good reading.

One novel method of road making is occasionally followed about Imperial, also Coachella. The roads are kept perfectly level from side to side with a low dike in the center, also one on either side. This makes two trackways, one of which may be filled with water from the ditches. When this is shut off and the ground hardened, the teams occupy that roadway, and the other side is flooded. This alternating back and forth gives fine hard roads all the year if they are given constant attention.

Speaking of the Coachella reminds us that we have some interesting notes regarding that section which we will use in some later number of the Cultivator.

Long Staple Egyptian Cotton.

Getting Ready for the Pork Barrel.



s of Canals Like This.

Alfalfa—the Mortgage Lifter.

Field of Alfalfa.

C. H. SESSIONS, ASSOCIATE EDITOR

PURE-MILK CRY.

The cry for pure milk has sounded from San Francisco to San Diego. It has been found that the milkmen have been using "preservaline" and formaldehyde and various other fixings in the vended fluid, in order to keep it relatively sweet during the warm season. The creameries in certain localities are said to have the same method for keeping butter from getting rancid. Milk inspectors have been vigorously prosecuting dairymen who use preservatives in their milk and it is to be hoped no cessation of interest will be manifested in inspecting both milk and butter, to the end that all death containing potions may be driven from the butter and milk industries.

NEW CATTLE FOOD.

Successful experiments have been made by ranchers at Bolsa with varieties of pennisetum as a fodder plant for cattle. One rancher has succeeded in getting crops of the grass that will make a total yield of ninety tons per acre per year with cuttings each month. The quality of the food compares very favorably with millet and is especially valuable for cutting and siloing. Specimens ten feet high are now on exhibition at the Chamber of Commerce in Santa Ana, although the crop is usually cut for feeding to stock when it atains a height of four or five feet. After each cutting it sprouts up from the old roots without replanting. A similar variety of grasses are a common stock food in India and other eastern countries.—Anaheim Gazette.

A new venture in the vicinity of Grand Rapids Mich, is the feeding of range sheep to be sold on the Chicago market. The first 3,200 arrived on August 7th. and were driven to a pasture south of the city.

* * *

A demand for sheep in California being greater than the supply, it is natural that Texas, New Mexico and Arizona will be called upon to supply the deficiency. Twenty years ago it was different. Then the ranges of Texas and New Mexico were being stocked up from California.—National Live Stock Grower.

* * *

The Australian wool authorities are looking for higher prices of wool on account of the shortage in production the loss of sheep due to the drouth being very large. The drouth is over but the losses remain.

* * *

The Gentleman's Magazine contains notice of the accidental death of a cart gelding, owned by Richard Fendall, of the Grange, Southwark, London, England. The horse died from the effects of a cut on the knee, he having somehow got into a difficulty with a large garden bell glass used for forcing melons. This horse had been forty-four years in Mr. Fendall's possession, and had been the property of his former owner for fifteen years, whence it would seem he was fifty-nine years old when he met with the accident which caused his death.

* * *

Thousands of cattle and sheep are reported to be suffering on the plains from recent heavy snowfall, rain and cold weather.

* * *

A great scarcity of hogs is reported in Oklahoma, owing to prevalence of cholera two years ago, which swept away nearly all large herds. Now, with prospect of a large corn crop, there is a general desire among farmers to get hold of hogs. The climate, soil and general conditions of Oklahamo are favorable for swine breeding Country Gentleman.

Milk is worth more when fed to hens than when fed to pigs. The hens like it, sweet or sour.

* * *

The hay market has weakened a little at Stockton. The best wheat hay commands about $11 per ton.

* * *

The dairyman's success is wholly due to the strength of his cow. If she has no individuality she has no merit.

* * *

The Pacific Coast Trotting Horse Breeders' Association held a most successful and enthusiastic meeting at Petaluma last week.

* * *

In Northern California the cattlemen are losing stock from the "loco weed." Sheep and horses eat the weed as well as cattle.

* * *

Henry T. Oxnard has just purchased 800 acres of land in Napa county and will move his famous stock farm from Lexington, Kentucky, to his new location. He has a herd of fine thoroughbreds.

* * *

Five thousand sheep near Boise, Idaho, died last week from eating a poisonous plant known as the wild pea. The ground was soft from recent rains and the sheep pulled up the plant and devoured the roots.

* * *

The owner of Lou Dillon, the Santa Rosa two-minute trotting mare, has had three offers to sell her. The prices offered were $50,000, $60,000, and $75,000. Mr. Billings, her owner, has not yet decided to sell. He paid $12,000 for the animal.

* * *

Dr. Samuel E. Bennett, of the United States Bureau of Animal Industry, has made extended experiments in studying the diseases of cattle in this State. He says that the vaccine virus used in some parts of the country produces a disease very like that of the foot and mouth disease.

* * *

Six years ago Canada exported in hams, bacon, and pork $4,500,000 worth; last year the figures were $12,500,000. Nearly treble is a good increase, but 12 times is still better, and that is the rate at which the poultry exports advanced from 1896 to 1902.

* * *

Anthrax is prevailing in Colorado, chiefly in the Arkansas Valley, where cattle and hogs are dying in large numbers, the owners not knowing what disease affected them, and not taking proper precautions, even feeding carcasses to hogs. State Veterinarian Lamb has the matter in charge.

* * *

Great Britain has removed its embargo on cattle and sheep from the United States. Secretary Wilson officially announces that the foot and mouth disease has been eradicated from all the eastern portion of the Union. To accomplish this 3900 cattle and 590 hogs and sheep were slaughtered and 200 premises were disinfected. All this was done at a cost of $300,000. Cattle and sheep may now be shipped to Europe from this country.

* * *

Dr. A. M. McCullom, county vetrinarian of Sacramento county, is having success in treating hogs afflicted with cholera. He uses a trough 18 feet long, 3 feet in depth and 2 feet in width. In this he puts a solution of sulphur, 12 pounds; lime, 12 pounds; formalin, 2 pounds; carbolic acid, 5 pounds. The lime and sulphur are boiled together and afterwards the other ingredients are added. The solution is put in the trough and the trough filled by water. The swine are dipped every third day for three weeks. The doctor in this way cured nearly all the animals so far treated.

THE DAIRY.

The following notes are selected from Dairy and Creamery:

In feeding dairy cows, consideration of their future must first be thought of. The supply of milk must be permanent and not temporary. Consequently any system of feeding that will reduce the normal or injure the animals should all be condemned. Concentrated foods are all right in their place, and every dairyman can avail himself of them to a certain extent to help increase the milk supply; but the animals must depend upon a variety of food, in which succulent food, such as grass and ensilage, is the great foundation, if their health is to be retained and their normal yield of milk kept up.

As to remedies and specifics to bring cows into a normal condition, there are many, but the sure thing is far from being found. A change of sires is recommended, and in some individual cases was effective. There are many advertised specifics that are often credited with efficiency, but as often fail. Starving the cow for a time previous to her periods, followed by generous feeding of oaten feeds, has caused, supposed, desired results, but the fact remains that barren cows are frequent, and all the more serious because of the fact of their well-directed breeding and superior milking qualities with strongly developed nervous organism. Scrub cows and semi-active temperaments are rarely other than sure breeders.

THE COW AND THE CALF.

The dairy calf, to be raised economically and with the greatest chance of developing into a valuable dairy cow, must be raised by hand, says J. H. Grisdale, in Farmers' Review. True, considerable skill and careful attention are necessary to success. First, regularity of feeding; second, uniformity in quantity of food; third, uniformity in quality of food; fourth, uniformity in temperature of food; fifth, cleanliness. The young calf should be fed at least three times a day for two or three weeks, and preferably four times. The ration for the first week or ten days should consist of whole milk fed at a temperature of about 100 degrees Fahr. This ration may be gradually changed to skim milk by introducing a small amount into the whole milk ration and gradually increasing the proportion, being careful to feed always at the same temperature. The place of the fat removed in the cream may be taken by oatmeal or flaxseed meal boiled, being careful to make but a very slight addition in the usual amount at any one time. Most ills that calves are heir to arise from a violation of some one of the principles I have mentioned or from a lack of cleanliness, almost every case of scours or indigestion may be traced to some sudden change in the time of feeding, the quantity or temperature of food fed. "The boy is father of the man," is a trite saying, but even more surely the calf is mother of the cow. The ill-fed, dyspeptic, unthrifty calf never can hope to develop anything but a common place cow, and two or three successive generations of calves so treated are surely enough to kill the aspirations of the most sanguine dairyman. The calf once past the age of three months is surely safe, the danger from that time on lying in the risk of getting too much and no less. I believe a creameryman should know, when he furnishes a set of tests, that he would be able to go before court and swear they are correct. It does not take the patrons of a creamery long to find out whether the testing is done carefully or not. I do not believe it pays for a man to attach an air of mystery to the method of testing, or to keep the time of testing a secret and allow no patrons to be present. Rather announce the time the testing is to be done and invite all to be present, and demonstrate how simply the system is carried out. Let a factory manager once gain the confidence of his patrons by accurate, careful work, and the trouble over this question at the factory is about over.

As showing the growing interest in the subject of forestry in the United States, it is stated that there are now three national forestry associations, with state organizations in eighteen states and one territory.

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The Jersey Cow at Home.

My tiny little kingdom of Jersey lies altogether to the south of England, in latitude 51, which is pretty well north in the Americas, but pretty well south here where the warm waters of the Gulf Stream temper things. Jersey is a bit of France, really, though for many centuries it has been under English rule. It is a loyal part of the great empire, though strangely enough the common language is yet largely French as is the language of the courts. It is on the map a most tiny and insignificant island. Even when aboard of it you must be careful not to ride too fast or you may ride off it on one side or another. It is, roughly speaking, ten miles long and five miles wide and perhaps a tenth of a mile high. And it has about 52,000 people at home, and God alone knows how many elsewhere. So much for statistics. Now to see what she has done to achieve fame.

God made Jersey very rich and fruitful and that it might never be destroyed by the hungry sea, girded it about with iron cliffs and rocks against which the waves gnaw endlessly but in vain. There is a tradition that once land extended nearly to France, now only visible in the distance some ten miles away. It must have been low land and the sea has devoured it all. It can go no farther in this age. How such hard and unyielding rocks ever came to crumble into such a kindly soil God alone knows. Perhaps the fact that for so many ages men have loved this soil, have clung to it, cared for it, bequeathed it to their sons and with it the priceless qualities of fertility and beauty may account for its marvelous richness and beauty today. Look what a population it supports, more than 1000 to the square mile! And how well they are fed and housed and clothed, too! There is no dire poverty on the island, as there are no grand lords or millionaires. Down at the wharf as I write four steamers are being laden with potatoes for the hungry cities of England. Every day four or more steamers leave here. Besides potatoes they carry flowers, strawberries, tomatoes, grapes, apricots, nectarines, cream, butter, and now and then a little, angular, loose-skinned, mild-eyed deer-headed Jersey cow. Maybe that cow brought the islander as little as fifty pounds, but then she may have brought as many as 1000 guineas, and she has been and is worth the money? How comes this strange thing?

Jerseymen love their island. They have made it a bower of beauty. They love their cows, foster mothers to them; they have made them what they are, the mildest, gentlest, most unselfish creatures on four feet. It was necessity, necessity and loving care and thought, that made the Jersey cow. The island is small. It is much subdivided; farms are diminutive. A man who has four acres is well-to-do. He finds work there for all his family and hires some. He who has ten acres is a large proprietor and is full of business. One who has sixty acres, as one wealthy gentleman has, is plunged into a whirl of business that taxes his powers of management and commercial sense. The man who has so little land must manage it well. Really it is not a little. Consider, if you will, how much land an acre actually is. There are 160 square rods to an acre even in a flat county and much more in a hilly country. Each square rod is fed and weeded and planted and nourished, and if God is good, as He is here, and blighting frosts do not come (here it seldom passes 20 Fahr.), and if scorching heats do not come nor droughts, as they seldom do here, each square rod may yield amply to repay a man for a day's work, for more than that if planted in some things. There are no idle surfaces here. Every inch supports growth. The wall flowers make gay the walls and tops of houses and the ferns cling to the shady side of the old walls. The roadsides are lined with stone or earthen walls, crowned with tiny hedge sometimes. These earthen walls become a mass of gray, ivy, flowers. This is close cropped every spring, more than once, no doubt, and fed to cows or made into hay. Trees shade the roads, often making veritable leafy bowers, tunnels of beauty. You wonder at the trees; they must sap the land, but you see in the fuel sheds bound bundles of faggots cut from these trees, reserved for winter's fires. There is use even in the roadside tree. Orchards abound and they support at least two crops, the fruit on the tree, the garden or grass beneath. Weeds there are, no doubt, yet they are carefully destroyed; there is not room for them. Good growth fills at once the space they left vacant.

Cows are tethered in the orchards. Nowhere have I seen cows running at large, save on one steep and seagirt slope where a few heifers had their liberty. They are tethered because by this means of eating the grass there is no waste and they relish it better to eat it all at one time than to trample over it, eating the best today, the poorest tomorrow. After the cows have eaten over it if there is much left the man with the scythe makes that into hay for winter feeding. The cows are constantly in the care of man; they know him only as a kind companion, provider, the one who comes when the grass is out of reach to move them on a bit! They are incredibly gentle and winning, loving to reach out their soft noses to you and sample the taste of you with their tongues. At night they generally go to the barns out of reach of chill of rain or frost. There they are clean, comfortable, well fed, usually with cut grass, mangels, sometimes on the best managed farms with a bit of cake even when the grass is good. And they give the feed right back. Theirs is the unselfishness of the sublimest maternity. Nothing is stored up under the cow's own soft hide; instead it is turned into a limid nectar, sweet, delicious, tasting as though distilled from violets, roses and meadow grass, having in it no quality of the bestial, seeming of human origin and for human use alone intended, as, no doubt, it is, the cow having adopted the master and loving to give these copious milky streams to his use instead of the calf that she only remembers vaguely as coming into her life so very short a time ago. How came she to lose her selfishness, to store her food for her master's use in overflowing pails and gold crowned pans? It came about thus: the cow that stored her food beneath her skin for her private and personal use only was perforce sacrificed, eaten, her heifers discarded, this for centuries back, thus the good ones begat good ones. Where each is known, where but two or three or half a dozen are kept, each one is well known, and its mother and its grand mother. This is easy and you get to know after a time what to expect from a calf, from the mating of two families. You must know, too, that there are no other cattle in Jersey, nor have there ever been other cattle here, save many years ago a few perhaps from Gernsey, leaving little or no trace of their blood. Thus there has been no dividing of purpose, of effort; it has all been along the the line of how best to make the Jersey cow good. The greatness has cared for itself.

The Jerseymen are the most severe critics of their own cattle that I have ever seen. "That cow is no good," one of them remarks to you. "There is a bad cow; see her defective head; see that bad fore udder?" "That bull would be better off three feet under the ground, of a calf he saved. There is none of the self-destroying glorification of glossing over defects. You cannot gloss over defects where the test is performance; that is the test here. They calmly condemn as no good cows that our breeders would praise to the skies, and show pedigrees to back their assertions. These people keep the pedigree in the background, only producing it when performance needs explanation. And what an unselfish lot they are, to be sure. Mr. J. A. Perree pointed out one fine old cow rather thin in flesh but healthy as a wild deer. "You would have laughed, Mr. Wing, to have heard the comments of my feeder on this cow when we were trying to get her ready for the Island show. He said: 'What is the use of feeding a thing like that? Scarcely do you put it into one end of her when you just draw it out at t'other.'"

The Royal Jersey Agricultural Society pays a lot of prizes to bulls exhibited each year, very good sums of money indeed to encourage the breed and home breeders. The three-year-old and over bulls must come with their get to receive notice. All prize winning bulls must stand for public service at a comparatively low fee and to retain the prize money must show a book of a certain rather large number of cows at the end of the succeeding year. This tends to keep good blood in circulation. Not all of the cows on the island are good. Not all are registered. The unregistered ones must pass examination to be admitted to registry now.

Here in this tiny island, not half as big as an average small county, only as big as two of our townships in Ohio, supporting well 52,000 people, keeping about 12,000 cattle, not getting poorer but steadily richer, building new homes and restoring old ones, maintaining perfect roads, increasing fertility of soil, adding yet more perfection to the beauty of it. Is not that a lesson to use at home? What folly that we should call our land old, that we should move west in search of "more land!" We have too much now. We really need to learn to use what we have. We need to learn to take out the weeds, the scrubs, to make many blades of grass grow where are now but few, to learn to love our land as these Jerseymen do and then shall come the kingdom.

Breeders of Jersey cattle in our country must have noticed how much prettier incurving horns the island cattle have than theirs. That is because breeders here see to it that the horns shall curve right. A heifer's horns, if they do not start out right, are fastened together at the tips with a bit of wire. As they grow they are drawn inward so as to take on the graceful curve. The wire is left in place merely while it is needed.

The calves do not suck their mothers. They are grown on skimmed milk instead and tethered out when a year old. They are never fat, but the pictures of health, graceful, soft-eyed, like fawns. Should they develop fat and become round and plump they would be looked upon with grave suspicion and little would be expected of them.—Joseph E. Wing in Breeders' Gazette.

SHEEP RAISING

The successful sheep feeders of later years have prospered simply because they have resorted frequently to the dipping tank. The parasites that sap the vitality of the sheep and produce the desease known as "scab" can be eradicted by intelligent dipping and in no other way. Nearly all of the leading stock yards of the country have conveniences for dipping sheep. No sheep are allowed to be shipped from the Chicago Stock Yards without being first thoroughly dipped. All of these precautions are important, but they do not reach the case.

The sheep feeder who relies upon dipping to eradicate mites and the eggs that produce scab will surely fail. It is well enough, perhaps, to dip sheep before they leave the stock yards, but if they are put back into infected cars for shipment, what has been gained? The wise feeder will build a "quarantine yard" on his farm, where he can put his Western sheep upon arrival, and they should be left in this yard until they can be thoroughly dipped. Nothing but new arrivals should be put in this yard. The feeder should not be satisfied with one dipping, but should dip again after five or six days have elasped. If Western sheep are taken to a farm for feeding, they should be kept separate from the regular flock until the dipping operation has been Live Stock World.

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CONTAGIOUS ABORTION.

Editor Cultivator: Could you please tell me what will cure our cows from losing their calves. Our cows lose their calves when they are from three to eight months along.—Subscriber. Downey, Cal.

Every cow that gives birth to a premature calf should be kept away from the rest of the herd until the genital passages have been thoroughly disinfected, all diseased discharges have stopped and the afterbirth securely buried. A bull serving one infected cow will give the disease to healthy cows. One of the latest treatments for those already infected, is to make hypodermic injections deep into the muscles of the shoulder, 10 c. c of an oily solution of turpentine every three days during the period of gestation. The solution is made of one part turpinol to nine parts pure olive oil.

* * *

GARGET.

Editor Cultivator: I have a Jersey heifer that calved on the 29th of September (5 days ago); her udder is very hard. I think a very severe case of garget. Have tried kneading and rubbing; also bathing in warm dishwater, but it is no better. I fed her alfalfa and beets; her bowels are all right. Please tell me what to do in the case. —T. H. Stafford.

Continue your fomentations. Make a bandage with four holes in it for the teats that can be tied over the back to support the udder. Place wadding cotton between udder and bandage and keep this saturated with water as hot as the hand can stand for an hour at a time three times a day. Hand rub gently and milk frequently. After each treatment cover the udder with mercurial ointment mixed with an equal amount of soap and add a little extract of belladonna. Keep udder supported with bandage when not treating.

CARE OF THE HORSE.

The Cultivato has often called attnetion to the value of taking care of the horse, especially the work horse. So often farmers and drivers of heavy city wagons slight their horses, giving them no attention ot noon time, withholding water when needed and fod which should be supplied at regular hours. A horse neglected as to stable care, or feeding, soon plays out. so to speak, and becomes old and worthless when it should really be in its prime. A starved colt will never make a good horse because it will never reach its full development in size and quality. Many persons who have colts and neglect their feeding, wonder why they do not mature into stronger horses, it is because they are starved when muscle building is going on. Always recollect this fact.

A subscriber asks us why it is that there are so many crippled horses in the country. One answer to that question is to be found in the fact that there are so many poor horseshoers in the land. Every man who fails to make a go of it in other kinds of business thinks he can be a horseshoer. But he can't shoe horses. Half the por crippled-up horses we see are made so by poor shoeing. It is a shame, and we ought to be ashamed of ourselves for patronizing such blacksmiths.

In connection with the matter of caring for the horse remember if a horse breaks loose and eats his fill of grain do not water him, but give him a dose of oil. If he is watered the grain will be washed into the intestines, there to ferment and give trouble. The oil will clear him.

Salt your horse regularly, and as regularly look in his mouth and see if it is sore and inflamed from eating barley hay. If so the pricks should be removed from around the teeth and a solution of warm salt water applied with a soft cloth or spray to allay the irritation.

CHOICE OF THE BROOD SOW.

In picking out brood sows I may say that people differ somewhat in their ideas. A few general points which should always be considered are as follows: Select a sow of good height, depth and uniform width. Get one that stands well on her feet and legs. Size of bone and conformation of feet and legs is an all-important feature in the breeding herd. Do not select a sow that is too drooping in the hind quarters, as such an animal is almost sure to be crooked in her hind legs, and thus is likely to break down on the same. The greatest difficulty with our hogs at the present time is that most of them are lacking in length and depth of body, and have not sufficient bone to carry their weight. A short-bodied sow will not make as good a mother as a sow of medium or good length.

The tendency of all our breeds at the present time is to deteriorate in size especially to deteriorate in length of body and in size of bone. In addition to this, if you are breeding Chester White swine it is all important that you adhere rather closely to the breed characteristics.

Of course, the ultimate end of all our swine is the block, thus the fat hog type must receive due consideration. Too many men are breeding hogs for fancy color markings, shape of ears, head, etc., rather than because they have indications of returning profit.

FEEDING HOGS.

Nothing has yet been found which fills the bill so well as a ration of which the basis is skim milk in conjunction with finely ground oats or barley and shorts. All these are flesh formers, says Up-to-Date Farming. Barley is a fat former. A very satisfactory mixture consists of finely ground oats 5 parts, finely ground barley 2 parts, shorts 2 parts, and oil meal 1 part.

Provide private runs for the pigs, in which place a shallow trough containing a gruel made of skim milk or buttermilk and the meal mixture. Start with shorts, adding the coarser meals as the pigs become older. No grain should be fed until the pigs are three months old. By this treatment, coupled with plenty of exercise, they develop good, healthy frames.

In weaning the common method is to shut the pigs up and let the sows go out in the pasture. Then the music begins. Better have a feeding floor adjoining the hog house. The feeding can be done here. Shut the sows in on this floor and allow the pigs every access to them. Feed the sows all the oats they can eat; give them all the water they can drink. The pigs are fed all they can eat. They go in and can get to the sows. By the end of a week the sows will be dry, and the pigs so disgusted going in and finding nothing that they'll just quit. You will find by the end of the week not a pig will go near its mother. You can turn the sows right out to pasture with the pigs and there is no more trouble. This is not a theory, for it is a very easy thing to dry a sow by feeding nothing but oats on a dry floor, and letting her have plenty of water.

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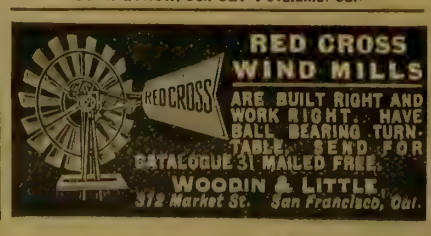

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WHICH ROAD?

If you could go back to the forks of the road;
Back the long miles you have carried the load;
Back to the place where you had to decide
By this way or that through your life to abide;
Back of the grieving and back of the care,
Back to the place where the future was fair—
If you were this day that decision to make,
O, brother in sorrow, which road would you take?

Then suppose that again to the forks you went back,
After you'd trodden the other long track;
After you'd found that its promises fair
Were all a delusion that lead to a snare—
That the road you first traveled with sighs and unrest,
Though dreary and rough, was most graciously blest,
With balm for each bruise and a charm for each ache—
O, brother in sorrow! Which road would you take?

—[Nixon Waterman.

BILLY AND THE EAGLE.

His head appeared very much too large for anything about him except his mouth and voice. The former feature was the first to engage one's attention and the latter was as hoarse as the croup.

His complexion was a dark Payne's gray and the blue-black skin hung in wrinkles around his withered neck, but was tightly stretched over his rounded abdomen. He was as naked as the brass Diana on the top of the Madison Square Garden and as blind as love.

His legs were too long and too weak to support his aldermanic body; but we must not blame little Billy for these peculiarities; he was born with them; he was only an orphan baby crow.

The crib in which he reposed was a work basket, his mattress was dry grass and his coverlet a rag of red flannel; however, the basket was more comfortable than the nest in which he was born and the flannel was as warm as an embroidered quilt.

Billy was no bottle baby, but he was very fond of raw eggs which his foster father, Dick, knew how to crack so that the contents could slip slowly into the great gaping mouth of the little crow.

After Dick had fed him, Billy would nestle down in his soft bed and sleep until next egg time. Sometimes Dick's baby sister Deborah would creep to the crow's basket.

Her first experiment was to try and put the bird in her own mouth. This proved a failure, but she was more successful in her next experiment, and she amused herself by picking up buttons and other small objects which came handy and dropping them into the red mouth of Billy.

Why these things did not cause the death of the crow is a mystery possibly explained by the habit that the young bird had of flirting distasteful objects from his mouth with a quick twist of his head.

The real result of these attentions was the gradual growth of a feeling of affection between Debby and Billy, hardly surpassed by the bond of devotion which bound Dick and the crow together, making them almost inseparable companions.

Long before it was the proper time for a young bird to leave its nest Billy would come sprawling and staggering from his basket to meet the baby girl, and, seizing the hem of her pinafore, would hang on and squawk while Debby, screaming with delight, would scramble over the veranda floor on all fours as rapidly as her hands and knees could carry her.

Debby still was a baby and had but just learned to walk when Billy was a handsome, full-grown, glossy black crow. By this time Billy appointed himself private detective in plain clothes and personal bodyguard to the little girl, and woe to the stray cat, dog or barnyard fowl that approached too near little Debby.

The innocent little garter snakes that timidly wriggled through the grass to the feet of Debby never failed to lose their heads and rest their bones inside of Billy Crow.

Dick would never harm the pretty little insect-eating snakes, or any other wild creature. He loved the trees, the sky and the air; the birds were his personal friends.

Dick knew where all the people of bird-town lived from the kingbird in the tall buttonwood tree to the sparrow in the clover. Billy Crow also knew the inhabitants of bird-town; but it would not have troubled the conscience of the crow to eat the robins eggs and the young catbirds at a meal and wantonly destroy their little nests.

If he refrained from so doing it was possibly because he always had enough to eat at home, or perhaps Billy thought that the inhabitants of Birdville belonged to his young master. Billy Crow might steal from any one else, but he never was guilty of robbing Dick, and even such tempting objects as Dick's bright glass marbles were deemed sacred by the crow.

The other birds always looked with suspicion at Dick's black companion; and although they learned to trust the boy, they never failed to scold and often to attack the crow.

The beautiful scarlet tanager would cry "Chip jarr, chip jarr!" whenever he saw Billy, and the gorgeously colored oriole, as he flashed in the sunlight, singing as he flew, would suddenly become silent at the sight of the crow; but when the kingbird erected his war plume Billy would have business to attend to which necessitated his presence directly around his master's feet.

A fierce war eagle, with great hooked bill and tremendous spread of wings known to Dick as Uncle Sam, lived in the mysterious country on the far side of the little lake in front of Birdville.

One day Dick and Billy saw the great bird at Rock Cabin Cove on the opposite side of the lake waiting for an opportunity to rob the industrious fisherman osprey. Billy ruffled up all his features, dropped his head and began to walk around his master's feet talking and laughing in low, guttural tones as if something greatly amused him.

A moment later the fishhawk fell with a splash into the water, disappearing from view, only to reappear again with a big stupid carp in its hooked talons. Uncle Sam launched himself, and, sailing over the back of the frightened hawk, demanded the fruits of the latter's labor.

The loud whistling protest of the hawk could be heard plainly appealing for help, and in a moment more Billy was flapping his black wings over the robber eagle's back. By his loud hoarse "caws" one could tell that he was having fun with Uncle Sam and teaching him how it feels to be the under one.

Soon the eagle was glad to leave the osprey and seek the shelter of the dense woods on the other side of the lake by the abandoned quarry. Perched upon the boy's shoulder Billy then told all about the affair.

"Caw," says Bill, "caw. Sam is nothing much. I saw Long Legs, the blue heron, at the leaning maple, whip him—Sam can't fight a litl bit 'nless he has everything his way—caw, caw!"

Nobody but crows and Dick understands crow talk, but Dick understands all the wood folks' languages.

All unknown to her parents and Dick, little Debby had toddled after her brother to Birdville. Wearied with the long walk the baby girl now slept peacefully among the blue flowers of the lupine, near the sparrow's nest.

The impertinent and noisy bluejay came chattering over to see why Debby was there, and incidentally to rob a nest or two by the way, but the kingbird raised the hue and cry and drove the gaudy bandit away and as the jay disappeared down the tote road his mocking, high-keyed voice was heard to cry:

"Got 'im, got 'im, I've got 'im!"

"Who? Who?" asked the barred owl, aroused from his day nap by the tumult.

"Phoebe," mournfully replied a faint voice; and Dick said to Billy:

"I hope not."

But the crow was not there to hear him. Just then the boy heard his friend using most unprintable language, betokening both rage and great excitement.

Seizing a club and hastening to his friend's assistance, Dick was horrified when he saw Uncle Sam vainly trying to lift a white object from the ground, while Billy was making a frantic attack upon the eagle, aided by the kingbird and humming bird.

With one bound the boy landed on the battle ground and with a mighty swing of his cudgel he laid the baldheaded robber prone among the flowers. The next moment he had gathered his little baby sister in his sturdy young arms. Her white pinafore was torn to shreds, but she was unhurt.

"Poo Billy, him fight naughty big bird, poo Billy," lisped the little girl.

Poor Billy, indeed! There he lay, his beautiful black wings outstretched, moving with the tremor preceding death. Billy the crow had been killed by the same blow which slew the eagle.

In vain did Dick use every means in his power to resuscitate his friend and comrade. The bird was past help.

A little mound among the lupines marks the spot where the quaint and lovable soul was freed from the black body which is buried there. A shingle serves for a headstone, and inscribed thereon is the legend:

Here Lies Billy the Heroe.
He Was My Best Friend an'
He Licked a Eagle.

—New York Sun.

RAILROAD ENTERPRISE

The California Northwestern Railway Co. have had a very successful season with their Fish Hatchery and Spawning Station work, at Ukiah and Willits in Mendocino County. The backward spring retarded the seasonal run of trout at their Spawning Station about one month later than usual, and fears were entertained that the catch would prove very light, but the copious rainfall during the early part of March changed conditions materially, and resulted in a very successful catch of eggs, amounting to over a million. The fish taken at this station are of the "Rainbow" variety, locally called "steel head" and are considered among sportsmen to be the finest variety of trout on the Pacific Coast. Being indigenous to these waters they are already acclimated to their environment and grow more rapidly and make more vigorous fish than any of the introduced varieties; under favorable conditions of food and water usually attaining a growth of eight inches in twelve months from the egg and make good sport for the angler the following season from their planting.

The work of the Spawning Station consists in the capture of the wild fish on their way to their spawning beds, relieving them of their eggs and putting the eggs through the eying process; they are then transferred to the Hatchery at Ukiah, where their incubation is finished and the fish is reared until they are large enough to transfer to the streams. This work of distribution and the large number of streams stocked this season assure the lovers of sport an abundant field in which to test their prowess when the season opens next spring.

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Information 248 S. Spring St., Los Angeles
Both Phones 352

BREAK, BREAK, BREAK.

Break breag, break,
On thy cold gray stones, O sea
And I would that my tongue could utter
The thoughts that arise in me.

O well for the fisherman's boy
That he shouts with his sister at play!
O well for the sailor lad
That he sings in his boat on the bay!

And the stately ships go on,
To the haven under the hill;
But O for the touch of a vanished hand,
And the sound of a voice that is still!

Break, break, break,
At the foot of thy crags, O sea!
But the tender grace of a day that is dead
Will never come back to me. —Tennyson

OUR HIRED GIRL.

We have parted with our hired girl, Leone.

Leone was tall and gaunt, and red-headed and eccentric. During those smoky hot days early in July, we missed her from the house a good deal, and when we watched her we saw her going to the stable carrying a palm-leaf fan. Upon questioning her she said that she belonged to the Society for the Prevention of Cruelty to Animals, and she considered it her duty during the hot spell to fan the horse. We subsequently discovered that she was giving bromide of potassium to the Chittagong rooster to cool his blood and that she had had a mustard plaster on Jones' cow (next door) for two days.

She was partial to medical practice, but a little uncertain. The first time Leone took a seidlitz powder in our house she drank one powder first and then drank the second one. She said, after she became calm, that she felt as if somebody was holding a Fourth of July celebration in her thoracic duct. And on the occasion when she drank Mrs. Adeler's liquid shoe blacking under the impression that it was paregoric for her cough, she expressed a fear that it would work through the pores of her skin and convey to strangers the impression that she was of African descent.

I found Leone upon the lawn one day, stooping down, hard at work at something. I went to observe her. She rose with a pair of button-hole scissors in her hand and she said she intended to mow the grass.

"Leone," I said, 'how many blades of grass can you cut in a minute with those scissors?"

"About two a minute.'"

"Well, Leone, there are four acres of grass with two or three thousand billions of blades to the acre, so you will probably not finish the job for nearly two thousand years, perhaps you'd better knock off and get supper ready first."

She said perhaps it would be better.

She had a way of trying to beat up eggs with a gridiron that was one of the most interesting sights I ever saw. The eggs would be in a small bowl, and she could reach them only with a small corner of the gridiron, but she threw a heartiness and enthusiasm, a whole-souled earnestness into her manner of brandishing the gridiron which was poetry merely to look at. There was an originality, too, about her method of making griddle cakes. When they were done enough on one side she always turned the griddle over, instead of the cakes, and when the cakes dropped into the fire she would seem as much surprised and hurt as if a personal friend had insulted her. I think she never understood exactly how it was. She appeared to have a dreamy kind of an idea that the laws of the universe were suspended, somehow, whenever she baked griddle-cakes.

That wet Monday we had early in June she was unable to dry her washed clothes in the open air, so she got my son Ivanhoe's magic lantern and turned the reflector on the wet sheets, under the impression that the light would dry them. She told Mrs. Adeler that if she had a locomotive headlight she would dry the whole wash in an hour.

Her greatest culinary sensation, however, was produced on the day she tried to make bean soup out of coffee berries, and to sweeten the cup custard with cream of tartar.

Leone had a good deal of mechanical ingenuity for a hired girl. She rigged up a series of wires and bell-crank levers, running from the garret to the kitchen, by which she could bolt her sleeping room door and unbolt it without going up stairs. (She always acted as if she had millions of dollars' worth of diamonds in her trunk, and was afraid of being robbed.) But the arrangement was defective in some particulars. She would pull the wire and unbolt the door before going up stairs. Then, as soon as she left go of the wire the door would bolt itself again, and when she got up stairs she couldn't get in. She made fifteen trips up and down stairs the first night trying to get the thing fixed, and finally she slept out in the entry.

Her "coal-scuttle hoister" was a bigger thing still. There used to be a dumb-waiter running from the kitchen down into the cellar, but I had it taken out. Leone bought a rope and put it over the pulley, which was still standing. Then she put a large box on each end of the rope. Her idea was to fill one box with loaded coal-scuttles and then to pull them up by standing in the other box. The first time she tried it she was pained to find that she would have to go up stairs to get in the empty box. But she did so, and the scuttles came up all right. However, then she descended, with the other box, she stepped out and scuttles came down again with a rush. Mrs. Adler's aunt thought there had been an earthquake. Leone went up stairs again and descended a second time in the empty box. When she got down she was afraid to get out or to let go; and she sat here unill morning trying to figure out why the machine wouldn't operate. She would have been there yet if I hadn't called her to get breakfast.

Leone left us next day. She said she was going to Italy to study to be an opera singer. I have doubted the story since we missed eight teaspoons and three pounds of sifted sugar. But I would give my last dollar to see Leone trying to play the part of Norma. A red-headed Norma fanning a horse and stirring eggs with a gridiron would create a sensation.—Mrs. Adler in the Hearthstone.

WEATHER AND CROPS.

The Weather bureau reports the following bulletin of crop conditions for the week ending October 5: Light rains fell in nearly all sections of the State last week. Heavy frosts occurred on the lowlands in some counties. As ample warnings were given, there was but slight injury to raisins and deciduous fruits on the trays, but late grapes were somewhat damaged. The first crop of raisins is nearly all secured and the second crop is being rapidly gathered. The grape crop is unusually heavy in many sections and the grapes have a high percentage of sugar. Wineries are running at full capacity, and the product is reported very satisfactory. Late reports from the Santa Clara valley indicate that the season's output of deciduous fruits is considerably below that of last year, but the quality of nearly all varieties is much better than usual. In other districts large crops have been gathered and the fruit is also of superior quality. Prunes are still on the trays in some sections; fruit is of excellent quality, but the yield in some places lighter than expected. A large crop of apples is being gathered, but the fruit has been somewhat damaged by codling moth. Oranges are in good condition and developing rapidly. Walnuts are of good quality but the yield is light.

Beans were slightly damaged by the recent rains and the cloudy weather has been unfavorable for curing; the crop will be about average. Sugar beets are yieldig a good crop. Corn picking and potato digging are progressing. Seeding summer-fallowed lands has commenced in some places.

SOUTHERN CALIFORNIA.

Generally cloudy and cool weather prevailed most of the week and light rain fell in some sections. Some damage has been done to beans and unprotected grain and hay by the recent rains. Fruit drying and raisin making are progressing slowly, and warm clear weather is needed. The raisin crop will be large and of superior quality. Oarnges are in excellent condition. Walnut picking is progressing; the nuts are very good quality, but the yield is light. Beans and sugar beets are being harvested. Late potatoes are doing well.

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The soil is rich sandy loam, laying level and well adapted for irrigation. It produces the finest quality of alfalfa, berries and vegetables. The climate is ideal. There is a good class of people, churches, schools, etc.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

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Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ⅛ acre peaches; ½ acre raspberries; ⅛ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room honse, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

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For information about these places and other good bargains in Gardena property, write to

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Recipes...

DELICATE PUDDING.

Tea-cup flour, large table-spoonful lard and pinch salt, mix thoroughly, then use water enough to stick it together. Roll to a thin layer, place in pie plate and perforate lightly with fork and bake until nicely browned.

Yolks of two eggs, two table-spoonsful sugar, large tea-cup sweet milk and flavoring desired.

Eggs and sugar beaten together, milk placed on stove until it boils, stir eggs and sugar into the milk then boil until thickens, and pour in the pie-plate. Spread thin layer of jelly on this, beat the whites of the eggs to a stiff froth, a table-spoonful sugar in eggs and flavoring same as before. Spread the latter upon the jelly and place in the oven, allowing to remain until frosting is slightly brown. This is one of the finest of desserts.

* * *

HUNGARIAN CABBAGE.

Butter a deep dish and line it with bread crumbs. Put into it a layer of chopped, partly stewed and drained cabbage; on this a thin layer of good sausage, then another of cabbage, seasoning each layer with pepper and salt to taste. The real Hungarian dish also has plenty of nutmeg added to each layer. The top should be bread crumbs, moistened with beaten egg. The whole is baked slowly two hours, covering half of the time, and sent to the table garnished with some leaves of herbs.

* * *

ROULADES OF BEEF.

Procure a tender piece of round, not cut in steaks, and divide into thin slices; pound them and spread each slice with chopped bacon, pepper, salt, and a little chopped parsley. Roll each piece up and tie with a string, then fry lightly in butter. When a good brown take them out, put into the fat a spoonful of flour, and stir until smooth. Add sufficient broth of some sort to make gravy, which season with pepper and salt. Put the meat, from which you have taken the strings, into the sauce to heat; add a few slices of lemon and serve hot.

* * *

STEAMED OYSTERS.

If shell oysters are used, save the liquid, and with it make a thickened sauce to pour over the oysters when cooked. Put the oysters in a shallow dish or plate and steam for five or six minutes. Place at once on small pieces of hot buttered toast, seasoning with salt, cayenne pepper and butter. Good enough without sauce.

* * *

SALLY LUNN.

One cup sugar, one table-spoonful butter, one cup sweet milk, two cups flour, tea-spoonful baking powder, two eggs. Sugar and butter creamed together, then add milk and stir thoroughly. Sift baking powder into the flour, and add eggs last, flavor with flavoring desired. Sauce to be served over the above. Heaping tea-spoonful butter, teaspoonful flour, pint boiling water, sweeten to taste, flavor same as above. Butter and flour must be thoroughly mixed, pour boiling water over the butter and flour and stir well, allowing to boil about five minutes. This sauce can be served over any cake or pudding.

* * *

EGG OMELETTES.

For a family of five use six eggs, table-spoonful flour, tea-cup sweet milk and pinch of salt. Eggs and flour must be beaten together. Fry on a hot griddle three table-spoonful of the above mixture at a time placed upon a griddle letting it cover surface in a thin layer. When brown, by means of a knife roll first from one side then the other until it is in a nice roll, proceeding in this way until all the mixture is used.

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BEE SUPPLIES—G. G. Wickson & Co., 128 N. Main Street, Los Angeles, Cal.

BY ERNEST BRAUNTON, LOSANGELES, CAL.

FOR WINTER FLOWERS

It is none to early to begin the planting of bulbs for winter flowering, says Leonard Coates, and it is easily within the reach of all to have at least a moderate display of narcissus, tulip, or hyacinth, and they are very cheap, the San Francisco florists being forced to reduce their charges in order to compete with the large Chicago and Eastern houses who make a specialty of the mailing trade. Bulbs require a light, rich soil, well drained. They will not stand fresh manure, too much moisture, a stiff, compact soil, or one which bakes or is allowed to bake on the surface. The culture of flowering bulbs is very simple, but it is absolutely necessary to have soil and moisture conditions right. Most bulbs will do well enough in the ordinary soil of the Fresno gardens if it be handled right. And a great deal depends upon that little word "if." The ground being properly prepared by deep spading, the bulbs should be set firmly, and, according to their size, two to six inches deep. Some exception are noted, as with the tuberose, which should not be covered with more than an inch or two of soil, and which delights in a very rich and moist soil, which has been prepared previously by enriching with thoroughly decayed manure, and with the gladiolus, which, though preferring a lighter soil, should be covered with not less than four inches of soil, and even six. The gladiolus may be planted any time from September to April in order to get a succession of blooming, but the tuberose should not be set in the open ground before April or May, when the soil has become well warmed.

MULCHING

This is of vital importance in the culture of bulbs in this climate. It is acknowledged everywhere to be necessary in making the soil act as mulch by stirring deepling before the surface bakes after watering or rain. But, in a climate where hot, sunny days are the rule for many months, it is advisable if not essential that a mulch of well-rotted manure or other litter be used in addition to stirring the soil. This should be scattered over the beds three or four inches deep after bulbs are planted.

WATERING

All this is of little avail, however, unless watering is done more carefully. Whenever possible, plants and shrubs in the garden should be watered by a thorough soaking occasionally by means of little furrows made with the hoe, in which the water is allowed to run. When sufficiently soaked, and before a hard crust has time to form, with a forked hoe, hand cultivator, or even rake, go over the surface and thoroughly loosen the soil. This need not be done more than once a week, or less, so that the quanity of water used would not be one fifth of what is thrown on the ground through the nozzle, as this is done daily, most of the water running off the surface, doing little good, and rendering the soil less productive every year. Go to a successful vineyardist and ask him why he "cultivates" ground after a rain or after irrigation; what would happen if he did not cultivate; and would he not be better off if he cultivated still more or deeper? Where it is not practicable to water plants in this way, let it be done by means of a nozzle throwing a fine spray, and which is fixed to some standard in the ground.

IN POTS.

Small pots should be used, preferably a 4-inch; the soil should be a compost of well rotted manure, leafmould, and sand. The bulbs are planted so that the top is just visible, they are well watered, put away in the cellar, or some dark, cool place for a month or six weeks, when they will be rooted; then brought to the light, but not direct sunlight for several days, and kept moist, but not wet. Hyacinths are better planted singly, but fuchsias, tulips, etc, may be planted in groups of three to five. Early Roman hyacinths should be planted in clumps. This last and some of the narcissus, such as Paper white and Trumpet Major, and Single Tulips are among the best for early flowering, and may easily be in bloom before Christmas.

Beds of hyacinths in assorted colors are always popular. To have the best effect, named varieties should be selected, and arranged acording to color. Those should be planted in the open ground during October and November, about four inches of soil covering the top of the bulb. With hyacinths as with tulips, care must be taken that they do not get too much water, especially before they have started to grow. When the stalks turn yellow, the bulbs may be taken up, cleaned of old skin and dirt, and put away in paper bags for next planting time. Narcissus, Roman hyacinth, many Liliums, etc., may be left in the ground, if the surface be kept loose and and well mulched.

* * *

But of all the common garden bulbs the Narcissus is in many ways the most satisfactory. The varieties are almost unlimited; such as Paper White, Albus plenus odoratus, Trumpet Major, Incomparable, Bulbocodium, etc., being a continual source of pleasure. Planted in clumps in good soil in shaded locations in the shrubbery or under trees, they are even a surprise at the return of spring.

BUSINESS NOTES.

The Imperial Investment Co. has some most atractive propositions regarding Imperial lands. Their specialty is government lands and water for them. Their office in Los Angeles is on Third street, No. 218, also at Brawley.

* * *

Those who have not yet sown the peas or other green manuring material should get a move in. The warmer weather gives a good start to the young plants and fits them for strong growth in the cooler shorter days. The Germain Seed Co. has the seed of a quality the best in bulk to suit the largest planter.

THINK IT OVER.

When you get sick you don't send for a piano tuner, do you?

When your horse has the colic or your cow has been snake bitten you don't summons a plumber, do you?

You're right you don't, but do you take the proper care of your poultry by keeping them in clean comfortable quarters and getting at the seat of their trouble when they droop around, mouth and throat ulcerated, mucous discharging from the mouth, eyes sore and swollen? What is the trouble? Roup! What do you do for them?—Let them die or kill them? A great many do, but how silly it sounds to hear men and women with intelligence report such practice.

Now, listen. We have something "that does the business." What kind of "business" you may wonder. The kind that eradicates roup and cholera in poultry and puts in proper condition that the raiser may realize a profit therefrom.

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TREE PROTECTOR
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IS BEAUTY NECESSARY TO WOMAN.

It is amusing to hear a Frenchman seriously contended, as the Marquis de Castellane recently did in the Times, that beauty is the all-important attribute of woman. This gentleman not only believes that beauty has been a great factor in woman's life, but that it always will and always should be the most important thing for her to consider or for others to consider in regard to her.

That beauty has been, to a great degree, the controlling force in woman's life and in the life of animals, both male and female, throughout the ages, is unquestionable but is the human race never to lift itself above the animal level?

As a matter of fact, it has already made great headway in this regard. The sense of beauty has not been lost. No good thing is lost which the past has found useful to its advance. But while not ignoring or becoming indifferent to appearance in either man or woman, other attributes have taken prior place among a large and growing part of society.

Why is it that mere regularity of feature and attractive coloring is not considered by the majority as necessarily beautiful? Why is it that the face with no expression is not regarded as beautiful by any but the ignorant and careless? Merely because other things than beauty have come to be considered as of first importance, and unless beauty is of a kind that reveals these other qualities, it is not regarded as beauty.

What is it that goes to make up expression? Intelligence, enthusiasm, vivacity, kindliness, force, high purpose—all of these things are seen through transparent surface features and make even a plain face beautiful, and without these or some of them no features can have true beauty.

Why is it that American women are universaly regarded as chief among women in attractiveness? Is it beauty alone? Surely their features are not more perfect, if as perfect, as those of women of other countries. It is the qualities of mind and character back of face and form that have given them the prestige recognized everywhere. More and more the world will grow into the standard that has moral and intellectual traits far above mere external attributes of form.—Denver News.

Good nature depends upon good health, good health depends upon good nature. Therefore, cultivate both equally. Being good-natured when one's liver is out of order is a tough pull, but a mental clubbing is quite as effective as is the eating of oranges and apples, and the slowing up on meat and butter and sugar, getting plenty of fresh air and exercise, and applying plenty of water, both externally and internally. Jerome K. Jerome says (in "Three Men in a Boat"): "The most efficacious cure for liver complaint is a clump on the side of the head," and he is dead right. Sail into the oranges and lemons, but instead of coddling your liver, and bewailing your fate, just get to work and "do something," both mentally and physically. Mental exercise, of the right kind, is just as necessary as physical exercise and fresh air, and bathing and food. And it is by "wrestling with destiny" that one learns to live—learns to judge of the things of this world that are really "worth while" and worth working for. When the sun shines, get out and soak yourself in it (both literally and figuratively) and store up enough warmth and good cheer to last you through the stormy times that may come again. And do not be stingy with your store of good cheer—once absorbed, it grows with use, and the more you give out to all the world, the more you will have, both for yourself and other people.—Ex.

THE GIRL TO MARRY.

Some marry just for beauty
Some coldly wed for wealth
Some make a requisition
For a girl in perfect health.
Some men prefer a woman
Wise enough to write a book.

After several weeks of controvesy the local prices of wine grapes at Woodland have been established, they are: Zinfandels, $13.50; Sultanas, $12; Muscat, $9; Tokays, $8.

THE HOME BEAUTIFUL.

There is much said nowadays about the elevating, purifying and far reaching influence of woman in the world as regards commerce and the professions; but woman needs the sheltering sanction of home for the highest, noblest and most sacred possibilities of her nature. A quiet home is the arena in which a woman may radiate sweet, gentle and helpful influence, ennobling generations that "rise up and called her blessed." There is no woman, however poor she may be, but can leave behind her the greatest things on earth—a noble character and transmit that character to each of her children. Misfortune and poverty may have been her lot, but if she succeeds in making a true home for her family she will have exerted the fullness of her power.

Woman, will always be the home maker—a man cannot make a home—corporations cannot make homes—a house of itself cannot be a home, be it ever so grand or comfortable. With the wisdom of her early training a woman will make a home for her husband and children, as her mother did before her. She will enlarge her horizon; train her faculties; develop her character and infuse into the midst of her family that heaven-born gift—a true mother's love.

It is a good. it is a blessed, it is a great thing to be the maker of a happy, peaceful home. The home is not endangered by the cry "Equal suffrage" and the rights of women to serve her day and generation in the busy mart and the professions. New elements of grace and beauty she will bring with her in trade, the halls of government, religion or wherever her ambitions and powers carry her, but the home is her God-given realm in which she fills the highest and best offices possible to mortal. Woman as home-maker is of greater importance than any service she can render as a wage-earner, as a teacher, as an artist, or any avocation she may pursue, in which her sister woman is making her mark.

The remembrance of our childhood's beloved home comes to us in after-life as a benediction; its teachings are the best safeguard against the world, the flesh and the devil. The prayers learned at the mother's knee are never forgotten and their memory remains green after the scorching fire of temptation and worldliness.

The woman on the farm can create a perfect home far easier than her urban sister; farmers and their families must of necessity spend more time in their home on account of its insular situation, and therefore, a mother's influence has more sway as is has fewer counter-currents.—Maxwell's Talisman.

CAPABLE.

A very jaunty-looking applicant for the position of stenographer and typewriter in the office of a gentleman in public life was told that it would be necessary for her to be a good speller and to have a thorough knowledge of grammar. She gave proof of her entire proficiency by saying, "Well, I have always knowed how to spell, and when it comes to grammar I don't take no back seat for nobody, I don't.—September Woman's Home Companion.

Seventy per cent of the failures in life are caused by delays, for some reason or other—the habit of putting things off, instead of acting on the principle, "Never put off until tomorrow what you can do today," and when the tomorrow comes the opportunity is gone or the enthusiasm has grown cold. Act on the injunction, "Whatsoever your hands find to do, that do with all your might." It is true that Procrastination is the thief of time, and that tomorrow never comes.—Ex.

The wine grape is being gathered in Southern California, and the crop promises to be fully fifty per cent over that of 1902. The season has been a most favorable one. The prices being paid by winery men run from $14 to $22 per ton.

MARGERY'S GUESS.

"Please dive me ten cents' wurf of stamps,"
Said she, with trepidation.
"All right, my child"—the stamp-clerk smiled,
"Of what denomination?"
That great word the little miss
For just a moment daunted—
"My mamma is a Mefodis.
I des' 'at's what she wanted."
—September Youth's Companion.

WHAT WE READ.

Mr. Howells said in "Silas Lapham" that our civilization came mainly through books. Nothing could be truer. It is but a modicum of culture that we get by open precept or by word of mouth. This being the case, nothing is more important than the sort of books we read. We should see to it, above all, that they be healthy; above all, sane. Books which tend to pull down one's faith in life or in mankind are not for us. Sweetness and light is a thing to have in front of us. We want our civilization to tend toward these things, and we will do well to test our reading by them.—September Woman's Home Companion.

A teacher was explaining to a little girl how the trees developed their foliage in the spring-time. "O, yes," said the little miss. "I understand; they keep their summer clothes in their trunks."—Credit Lost.

Here's to the ships of the ocean;
Here's to the women of the land:
May the former be well rigged,
And the latter be well-manned.

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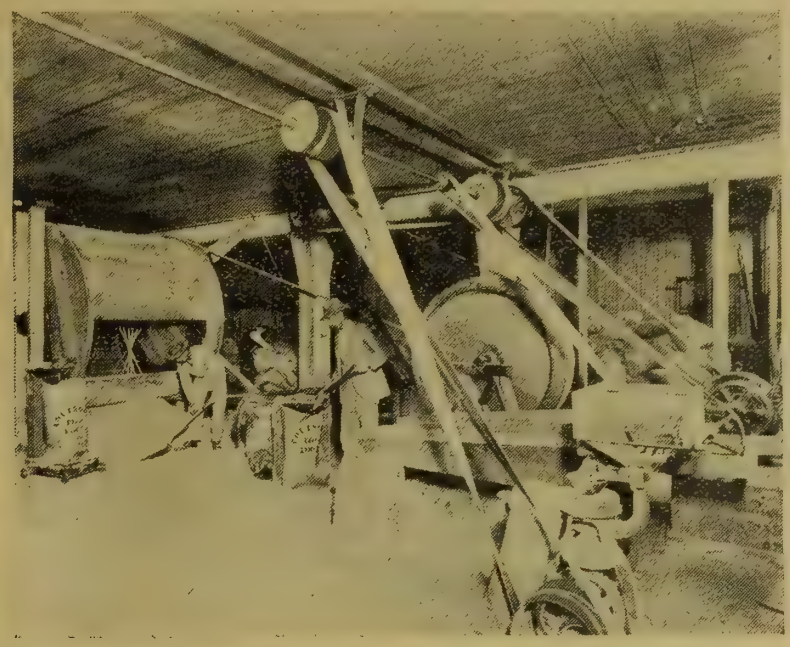
Makes Hens Lay, Keeps Hens Strong and Healthy, Makes Feathers Grow. It costs a little more to begin with, but it is a richer and more nutritious food and is the cheapest in the end. Do not neglect to feed this food during the moulting season.



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Is especially prepared to feed to moulting fowls, and it contains all the elements necessary to make the feathers grow, Coulson's Egg and Feather Food is not a fattening food, but a food that makes muscle, bone and feathers. A hen may be extremely fat and yet not have the vitality to stand the strain of growing new feathers, and many hens die during the moulting process. If you want your hens to complete the moulting process quickly, and to have a beautiful, glossy plumage, just feed them all they want—a full meal at least once a day (and sometimes twice a day)—of Coulson's Balanced Ration Egg and Feather Producing Food.

One man says that this year he has been feeding his hens Coulson's Egg Food and the hens have laid more eggs than ever before. Another man who has been feeding Coulson's Egg Food for a year says that it makes the hens lay over the fence and lay everywhere, and you can gather the eggs by the basketful wherever you go. It's good for laying hens, it's good for the molting hens, it's good for the growing pullets.

One Sack Will Feed Two Thousand Hens One Time

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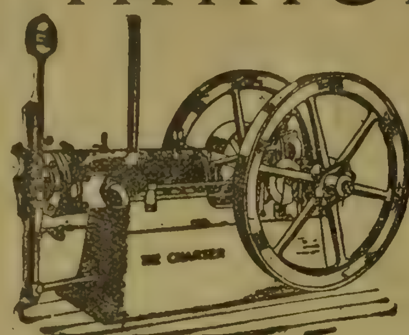

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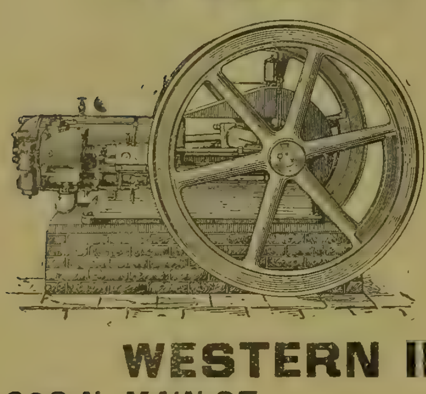

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Santee, Cal., Sept. 17, 1903.

The Samson Iron Works, Stockton, Cal.

Gentlemen—I bot. two 4 in. centrifugal pumps off you last spring. I am pumping over the capacity with both of them. One of them I am exceeding the capacity over 33⅓ per cent, pumping about 106 inches, also which we speeded up to 125 inches, causing the manager of a large Los Angeles engine house to say it gave the best results that he had ever seen. Being now a Californian I am certainly glad to be able to commend home manufactures. Very truly, H. D. WILLIAMSON.

SAMSON IRON WORKS STOCKTON CALIFORNIA

Los Angeles Markets.

LOS ANGELES, October 8.

The conditions surrounding the local markets are varied. Vegetables are considerable higher owing to the scarcity with which they come on. Sweet potatoes are in good demand, prices ranging from 2 to 2¼, according to quality.

Other vegetables coming slow tend to higher prices.

Spring chickens are quite plentiful, but hens are scarce.

The grain market is quiet.

Butter.

B. of T. Creamery, per 2lb roll		70
So. California, dairy, do	.65	67½
Cooking	52½	57
Cold storage	.50	60

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.30	.31
Fresh Eastern	.26	.27
Store, case count	.24	.25

Potatoes.

River, cwt		1.60
Salinas, do		1.60
Local, do	1.00	1.15
Sweet Potatoes	2.00	2.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, yellow, cwt		1.00
Beets, per 100 lbs		1.00
Cabbage, per 100 lbs		90
Carrots, per sack		90
Chilles, green per lb		.03
Lettuce, per sack	.25	

Fruits; Fresh.

White figs, 20-lb box		.50
Black figs, 20-lb box		[illegible]
Cantaloupes, per doz		.60
Watermelons, per doz		1.25
Strawberries, box, fancy		.07
Pears, northern, Bartletts, bx 40 lbs		1.50
Peaches, per box	.40	.60
Limes, per 100	.90	1.25
Northern apples, 40 lbs	.75	1.25
Four tier belleflower		1.25
Local, box 30 lbs		.60

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08
Peaches, per box	.40	.75
Peaches, per box	.40	.50
Local belleflower, 30 lbs		[illegible]
Northern apples, 40 lbs	.50	.75

Poultry.

Spring Chickens	.15	17
Hens, Ni. 1, per lb	.14	14½
Ducks, per lb	.12	13
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa, large bales	10.00	12.00
Corn, Oct. delivery		1.35
Barley	1.04	1.06
Wheat	1.45	1.50
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.50
Middlings		1.45
Cracked Corn		1.45
Oil Cake Meal	1.65	1.75
Chicken Wheat		1.66
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, October 8.

Butter buyers operated cautiously in the resh lines of goods yesterday, continuing to hold their orders down to a minimum, and, as there was some accumulation on the market, an easier tone developed and fractional declines were noted.

BUTTER—Per lb:

Creamery, evtras	.30
Creamery, good to fancy	.27 @29
Dairy extras	.25 @26
Dairy choice	.21 @24
Store	.18 @20
California storage	.24 @26
Eastern Creamery	.23 @25

CHEESE—Per lb:

Cal. Creamery, mild new, extra	.14 @15
Cal. Creamery, mild new, choice	.13½@14
Young America	.14 15½
Eastern, New York Cream, Cheddars and flats, new	.14½@16

Eggs and Poultry.

There was a slight rise in the price of eggs but not so much as had been anticipated, owing to the liberal shipments from the East during the week.

The following were the quotations yesterday:

EGGS—Per doz:

Ranch, selected large	.40
Ranch, good to choice	.36 @39
California Storage	.26 @29

POULTRY—Old Roosters, per doz, $4.50@5.00; young Roosters, $5@6; Fryers, $4@4.50; Broilers, large, $3.25@4; small, $2.50@3; Hens, $4.50@5.50; Ducks, per doz., old, $5@6; young, $5.50@6.50; Turkeys, young, per lb., 20@23c; old, per lb., 14@17c.

Fruits and Vegetables.

The vegetable market showed little change this week. The greatest change was noticed on potatoes. Heavy shipments of Oregon Burbanks had a tendency to lower prices somewhat. On the whole the market showed little change on staple articles.

APPLES—Per box, common to choice, 30@85c; fancy, $1@$1.25.

PEACHES—Per box, 35@65; large open boxes, 50@75; bulk, per ton, nominal.

PRUNES—Per box or crate, 50@85c.

FIGS—Per box, 55@$1.25.

CANTALOUPES—Per crate, $1.25@2.00.

GRAPES—Isabella, large box, 65@85c, as to variety; Wine Grapes, per ton, Zinfandel, $17@23.

POMEGRANATES—Per box, 65@2.25, as to size of box.

QUINCES—Per box, 35@60c.

BERRIES—Per chest: Strawberries, Longworth, $4@$7:; large varieties, $7@9; Raspberries, $3.50@$5; Huckleberries, per pound, 7@9c.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, nominal; Valencias, $1.25@3; Lemons, $1@3; extra, $3.50; Grape Fruit, $1.75@2.25;; Limes, $4.50@5.

VEGETABLES—Tomatoes, per box, 20@40c.

POTATOOES—Per ctl: River Burbanks, 50@80c.

Dried Fruits, Nuts, Etc.

The San Francisco Chronicle says::

The market for the leading variety of dried fruits continues bouyant under a vigorous demand and full outside figures are easily obtained for the top quality of offerings. The greatest interest is still centered in prunes and the demand is strong, with buyers keenly endeavoring to close deals well up to full rates, but sellers are indifferent in parting with their holdings.

APPLES—Evaporated, 5@6c; Sun Dried, 3½@4c.

APRICOTS—Royal, fancy, 9½@10; choice, 8@8½c; Moorparks, choice, 9@11c.

PRUNES—Four sizes, 60s to 100s, 3@3¼c for Santa Clara; other sections, ¼@½c less.

NECTARINES—White, 4@4½c.

FIGS—White, 4@5c; Black, 5½c.

NUTS—Per lb: California almonds, hard shells, 8@8½c; soft shells, 10@11c; paper shells, 11@12c; standard 9@9¾c; Pecans, 11@13c; Walnuts, soft shells, 12½c; do No. 2, 10½c.

HONEY—New Comb, per lb., White, 12@13c; Light Amber, 11¼@12c; Extracted Water White, 6½c.

Live Stock.

The Live Stock market displayed about the same degree of energy that was shown last week. Former prices obtained generally.

CALVES—Light, per lb., 5@5½c, gross weight; heavy, 4@4½c, gross weight.

CATTLE—No. 1 Native Steers, 8@8½c; second quality 7½@8c; thin Steers, 6½@7c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrikage.

SHEEP—Per lb: Fat Wethers, No. 1, 3½@4c, gros weight; Ewes, oN. 1, 3¼@3¾c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5s per lb, live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 140 lbs. and over, 5¾c; weighing under 130 lbs, 5¼@5½c;; weighing 260 to 305 lbs, 5½c; rough heavy, 4½@5c.

FRESH MEATS.

There were no marked fluctuations in values for Fresh Meats this week, and, beyond a slight improvement in the demand, stimulated by the recently reduced rates, there was no material change in the general situation.

BEEF—Per lb.: No. 1 Steers, 7@7¼c; do, second quality, 6½@6¾c; No. 1 heavy, 7@7¼c; do, second quality, 6½@6¾c; No. 1 heavy, 7@7¼c; thin, 6@6½c; No. 1 Cows and Heifers,

6@6½c; second quality, 5½@6c; thin, 4@5c.

VEAL—Per lb.: Heavy, 6½@7c; light, 8½@9½c; poor Calves, 6@6½c.

MUTTON—Per lb.: Light Wethers, 8@8½c; do, Ewes, 7½@8c; heavy Wethers, 8c; Ewes, 7½c.

SPRING LAMB—Per lb., 9@10c.

DRESSED HOGS—Per lb., 8½c.

Hay and Feed Stuffs.

HAY—Prices on New Hay, per ton: Wheat, $12@16; Wheat and Oat, $12@15; Oat, $11@13.50; Barley, $9@12.50; Clover, $9@10.50; Alfalfa, $9.50@12; Stock, $8@10.50.

STRAW—Good to choice, per balé, 45@60c.

FEED CORN MEAL—Choice grades, per ton, $31@32.

MIDDLINGS—Per ton, $25@29.

BRAN—Per ton, $21.50@22.50.

CRACKED CORN—Choice quality, per ton, $31.50@32.50.

WHEAT—No. 1 Shipping, per ctl., $1.36¼; choice, $1.38¾; White Milling, good to choice, $1.40@@1.51¼.

BARLEY—Choice, oN. 1 Feed, $1.08¾@1.11¼; off grades, $1.05@1.07½; Brewing, No. 1, $1.12½@$1.20; Chevalier, $1.25@1.50.

BEANS—Prices per ctl.: Large Whites, $2.60@2.85; small do, $3.15@3.35; Pea, $3.25@3.50; Lima, $3.35@3.50; Red, $2.90@3; Pink, $2.50@2.85; Bayo, $2.60@2.85; Blackeyes, $2.65@$2.85; Red Kidneys, $4.25.

Hops.

The price for new crop is 22½@25c per lb, according to quality.

Wool.

WOOL—Spring clip, per lb.: California, Humboldt and Mendocino, 18@20c; Northern, 15@17½c; Nevada, 12@15c; Valley, Oregon, 15@18c.

Fall Clip—California, Plains, 8@10c; Foothills, 10@12c; Middle Country, 11@13c.

Eastern Markets.

Grain and Produce.

CHICAGO, Oct. 7.—Everything considered wheat prices were strong, due largely to the unfavorable weather throughout the entire wheat belt, although smaller receipts added to the general apprehension among shorts. Openingprices were firm, with December a shade to ⅛ to ¼ higher, at 77¼@77⅝, notwithstanding the rather indifferent tone of cables. With some improvement in the cash demand and on covering by shorts, the prices advanced early to 77⅝@77¾, but later sold off again on prospects of more favorable conditions. Selling pressure was augmented by a private crop estimate of over seventy million bushels for the crop year.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	34,300	15,000
Wheat, bushels	145,900	27,200
Corn, "	487,100	893,900
Oats, "	432,000	183,700
Rye "	5,100	3,000
Barley, "	289,000	4,400

Chicago Live Stock.

CHICAGO, Oct. 7.—Cattle—Receipts, 27,000; slow and lower; good to prime steers, 5.20@5.90; poor to medium, 3.65@4.90; stockers and feeders, 2.25@4.15; cows, 1.40@2.50; bulls, 2.00@4.30; calves, 3.50@4.70; Texas fed steers, 2.75@3.50; western steers, 3.00@4.75. Hogs—Receipts, to day, 18,000; tomorrow, 20,000; 10@15c lower; mixed and butchers,' 5.40@6.10; good to choice heavy, 5.50@5.90; rough heavy, 5.00@5.45; light, 5.60@6.10; bulk of sales, 5.45@5.85. Sheep—Receipts, 32,000; sheep and lambs steady to 15c lower; good to choice wethers, 3.35@3.80; fair to choice mixed, 2.25@3.25; western sheep, 2.25@4.00; native lambs, 3.50@5.65; western lambs, 4.40@5.40.

California Dried Fruits.

NEW YORK, Oct. 7.—The market for evaporated apples is qu et, small jobbing sales of old apples shows unattractive quality and rules neglected. Common are quoted at 4@5; prime at 5¼@5¾; choice at 6@6½, and fancy at 6¾@7½. Spot prunes are firm, with Coast advices 7½. Spot prunes are firm¼¼¼⅜ advices indicating bullish views among holders. Quotations range from 3¼ to 7 for all grades. Apricots also are firm, with choice quoted at 9¼@9½; extra choice are 9¾@10¼, and fancy at 10½@12. Peaches are quiet, at 7¼@7¾ for choice; 7¾@8¼ for extra choice, and 9¼@10½ for fancy.

CITRUS MARKETS

ORANGE AND LEMON MARKET.

The orange market during the past few days has not developed into anything like a strong demand. At the principal Eastern points where the market is usually active, no special call has come for orange shipments. A limited sale at auction points has been made, but nothing to command special notice in the way of prices has come up.

The Citrus Fruit shipments from Southern California to Tuesday last, were 22,163 carloads, of which 2673 were lemons.

AUCTIONS.

NEW YORK, September 30.

A. C. G. Fr. Ex., Blue Seal Val., $7.90; Red Shield, $3.40.

PHILADELPHIA, September 30.

C. C. U., Ontario, Peacock Val., $2.85; Lighthouse, $2.00.

BOSTON, September 30.

C. C. U., Ontario, Peacock Val., $3.20 Lighthouse Val., $2.10.

PITTSBURG, September 30.

C. C. U., Ontario, Peacock Val., $3.15; Lighthouse Val., $2.50.

NEW YORK, October 2.

C. C. U., Fullerton, Azalea Val., $3.35; Amathyst Val., $3.10.

PHILADELPHIA, October 2.

Covina Fr. Ex., Butterfly Val., $3.00; Holly Val., $2.30.

NEW YORK, October 5.

C. C. U., Ontario, Peacock Val., $3.05.

CLEVELAND, October 5.

Semi-tropic Fr. Ex., Sierra Madre, Lemons, $4.25; Wilson Trail Lemons, $4.40.

PITTSBURG, October 5.

Covina Fr. Ex., Butterfly Val., $3.35; Holly, $2.70.

BOSTON, October 7.

Covina Fr. Ex., Red C. Val., $3.80; White C., $2.85.

PITTSBURG, October 7.

C. C. U., National City, Sunset Lemons, $2.00.

A New York journal, in commenting upon the closing of the deciduous fruit season in California, says: "About six thousand cars have come East, including all varieties, and only 700 to 800 cars, consisting principally of grapes, remain to come forward. It is probable that when the reports are all in it will be found that shipments from the state will be about the same as last year. This will be a disappointment for growers and shippers expected a material increase."

As to raisins, prices by the California Raisin Growers' Association on standard brands, 1903 crop, f. o. b., at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb. box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.55; Two-crown London Layers, $1.45; Four-Crown Standard, loose, Muscatels, 7c per lb; do, Three-Crown, 6½c; do, Two-Crown, 6¼c; Seedless Muscatels, 5c; do, Seedless Muscatels, floated, 5¼c; Seedless Standard Sultanas, 5c; Thompson Seedless, standard, 6c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz. per lb., 7¾c; choice, 7½c; fancy, 12 oz., per pkg., 6⅜c; choice, 6¼c; bulk, per lb., fancy, 7½c; choice, 7¼c.

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SUMMONS.

No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.

(Seal) By C. O. Winters, Deputy Clerk.

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SUMMONS.

No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

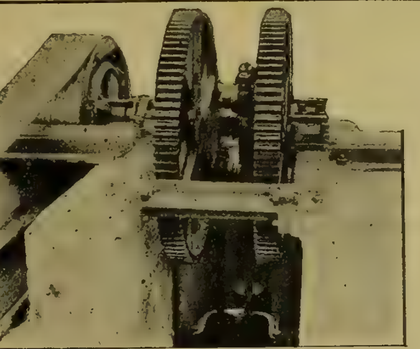
You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.

By C. O. Winters, Deputy Clerk.



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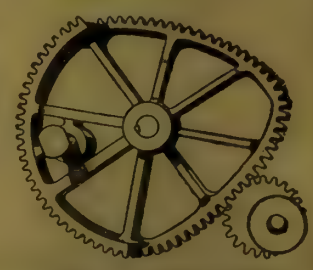

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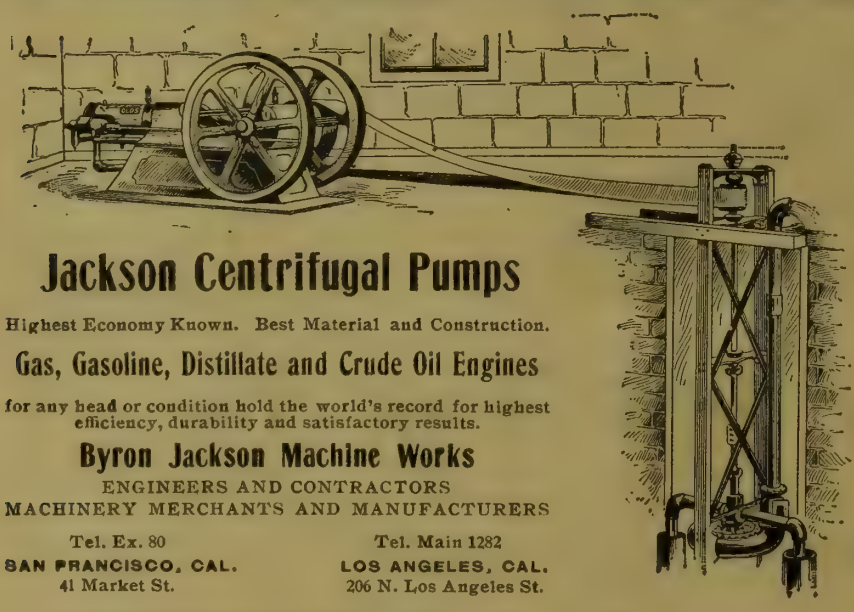

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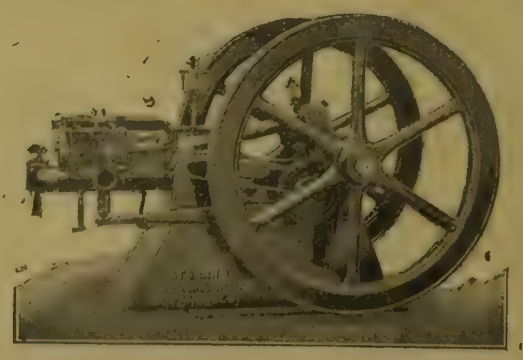

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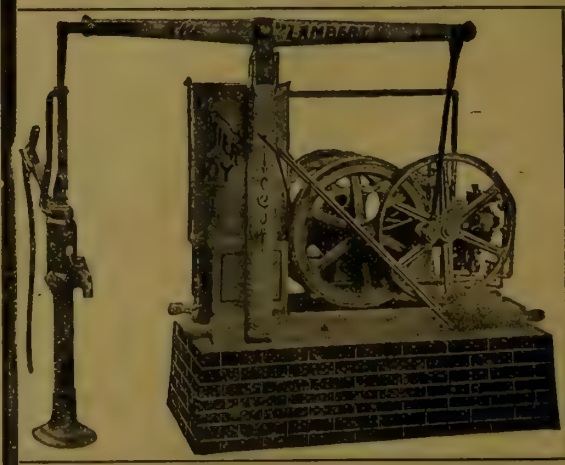

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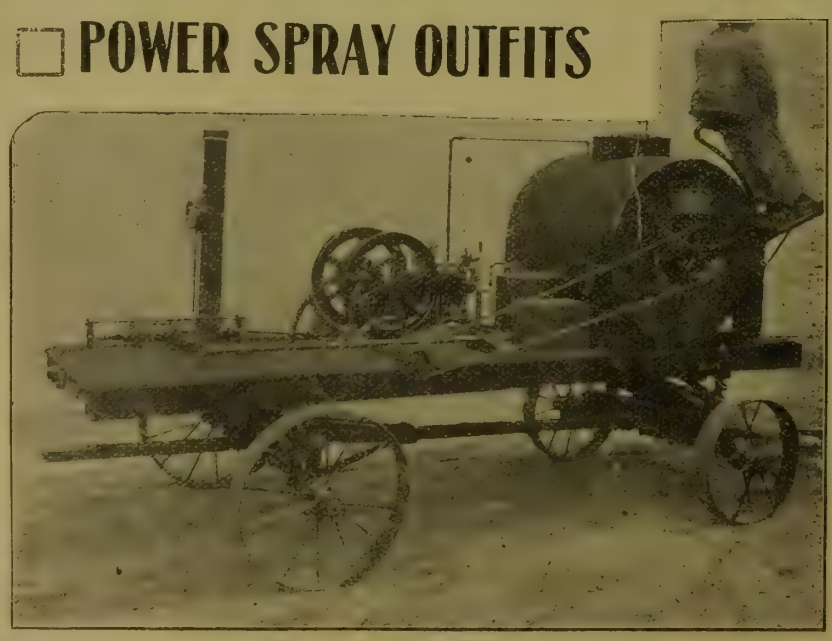

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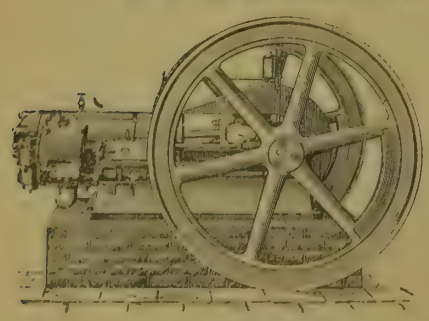

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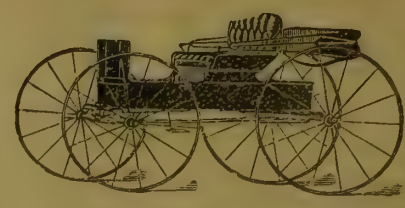

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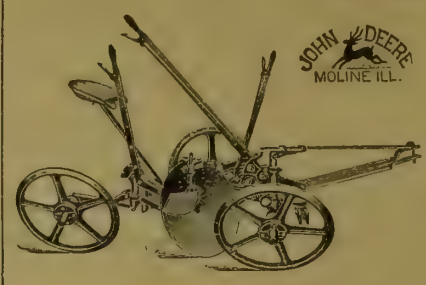

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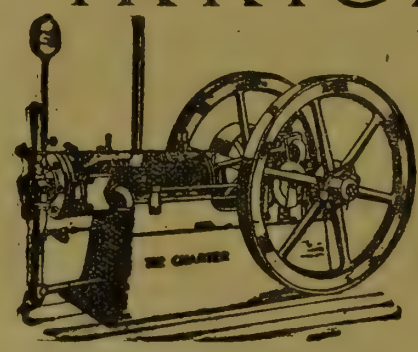

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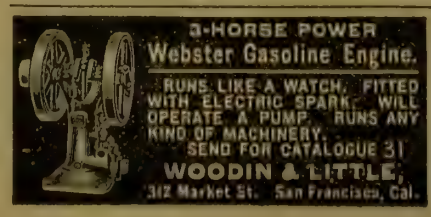

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 16 LOS ANGELES, CAL., FRIDAY, OCTOBER 16, 1903 Subscription $1 a Year

GRAPE GROWING IN CALIFORNIA

By John Isaac, Sacramento

No class of fruit has paid better in the past few years than table grapes. These always are in good demand in the eastern market and when attractively packed, and properly selected, are pretty certain to bring good returns to the grower. The principal section producing table grapes is Sacramento county and the counties immediately surrounding it, San Joaquin, Yolo, Sutter and Yuba. In these counties there has been a very largely increased acreage of this class of grapes planted during the past two years, very much of it by those already engaged in the business, so it is evident that those who know best still have faith in the profitableness of growing grapes for shipment.

Conditions suitable for growing grapes in general, are also suitable for those grown especially for table use. They are not particular as to soil and will do well on a wide range from light sandy to a heavy loam. They delight in a warm soil however and do not do so well on adobe. In Fresno county, which is the home of the grape, the favorite soil is the white ash or a red sandy loam. These are the two extremes of grape land, and both have their advocates, depending largely upon ownership, for those who have red lands, think their peculiar kind of soil best for grapes, while the owners of white ash soil declare that there is no soil equal to it for grapes. The white ash is a very light soil, carrying a varying amount of sand from 30 to 60 per cent, while the red soil closely approaches a clay. The vine has little regard for the lay of the land but seems to do well on either level or hilly land, with perhaps a preference for hilly, well drained locations. Some of the best of the wine vineyards are found on very steep hillsides and good results are obtained from this character of land. In summing up, however, it may be asserted that the grape finds its ideal location in warm, sandy, or even gravelly loam, deep and well drained and with a warm exposure, preferably to the south.

In matter of climate it is almost needless to say that the grape delights in warmth and that the best results with table grapes are obtained in the interior valleys, away from the cooler districts of the coast. The grape, to do its best, should have a long season, say from June to October, without rainfall and with a temeprature ranging from 60 to 100. This high temperature is especially desirable during August and September, the period of ripening, and during which time the fruit is filling out and acquring size, flavor and color. Cloudy or cool weather during this time is very detrimental to the fruit, and a climate that is too moist is very liable to cause mildew and other fungus diseases of the vine and fruit. In the matter of climate, therefore, the requirements are plenty of clear, warm weather, and we may add even hot weather, if not too excessive or long continued, in fact just such as the San Joaquin and Sacramento valleys can supply.

In setting out a vineyard, the soil should be thoroughly prepared beforehand, remembering that the work is to be done once for all time, so far the the new vineyard is concerned, and that it will show all neglect and bad treatment in the future, while proper preparation and careful planting will pay handsome dividends year after year. It is better, if possible, to commence the work of preparation the year before the vines are to be set out, by thoroughly and deeply plowing the land. A cultivated crop may be grown, and the soil kept thoroughly pulverized. In the winter season it should again be plowed and cross plowed, putting the plow in to the beam, then it should be leveled and staked off. The distance at which the vines are planted varies, according to the ideas of the individual planter. The stakes are to be set out eight by eight feet, eight by ten, ten by ten, or sometimes six by twelve feet, leaving an avenue about every tenth or twelfth row sufficiently wide to accommodate a team in packing season. The method of setting out a vineyard is very much the same as in setting out an orchard. The first row is carefully spaced off and should be perfectly true. A very light framework, triangular in shape, one side equaling the distance between the rows and the other the distance of the vines in the rows, the two sides forming an accurate right angle with each other is used. If the base of this triangle is placed on two of the pins already set the apex will mark the spot where the peg is to be set in the next row, and by moving the guide along the row one peg at a time, the next row can be staked out, and the operation repeated until the whole vineyard has been staked. This is the quickest method, and if care is exercised, is very accurate. Some, however, use a line upon which short pieces of different colored cords are tied at the desired distances, and when the line has been stretched the pegs are set against the marks, others use a wire with small lumps of solder attached. Any of these methods answer the purpose which is, of course, to lay out the vineyard in straight rows of equal distances apart, so that subsequent care and cultivation may be easily accomplished. The pins are usually dipped into whitewash and so are conspicuous when they are standing in the field; they are left after the vines have been set out to mark the location of each vine, for the first season, as otherwise there would be danger of interfering with the young vines while cultivating or working the vineyard.

In setting out the young plants, where rooted vines are used, and they are the best, ample root room should be given in digging the holes. It is a mistake to crowd the roots into a hole too small to accommodate them, and, like all slouchy work in the orchard or vineyard, will bring its punishment in decreased growth and diminished crops. A little extra time and more careful work at the commencement will always pay. As the young vines are set out each one should be cut back to two buds and left for its summer's growth. In sections where irrigation is necessary, the vines should be watered after they are set out, and the land then leveled off with the cultivator. During the first season the vineyard should be cultivated at least once a month, and in irrigated sections it should be cultivated after each application of water, which is usually once in two weeks or less.

In good soil and with proper care the young vines will make about two or three feet of growth during the first summer. This should be pruned back during the pruning season, in

(Continued on Page 280.

Pleasant Wells Vineyard, Rincon Valley near Santa Rosa

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Oct. 16, 1903

Circulation this issue 8,900

It may be a little early to say, but not much either, that as we are approaching the tourist season an effort should be made to clean up, dust up and otherwise improve the appearance of our California towns. Los Angeles, San Francisco and San Diego especially need thorough cleaning. We may avert small pox, typhoid fever, diphtheria and other malignant diseases by a systematic overhauling of our streets and alleys. Now is the time to begin this work; then when the rains come we shall derive the benefits which cleanliness brings.

From statistics recently compiled it appears that the American electric street lines carried a number of passengers, during the last fiscal year, equal to more than four times the population of the earth. The number of paid fares reached nearly 6,000,000,000. The total distance traveled by the lines was 1,099,256,744 miles. This says an authority is equal to 2080 round trip excursions from the earth to the moon.

A wise weather prognosticator in the Los Angeles Herald, discussing the probability of a wet winter, says, "If we have enough rain we will have a wet winter, whether the moisture comes early of late; otherwise a dry rainy season will be our fate." How wise!

Leonard Coats in the Fresno Republican has been doing some good work to secure the Fruit Growers' Convention for that city in December. We understand the matter is about determined in favor of that city.

FOREST RESERVES PROTECTION.

The subject of forest reserves is rightly beginning to occupy much attention by the commissioner of the general land office. That official has, within the past year withdrawn from entry nearly 12,000,000 acres of land in Northern California with a view of selecting and setting apart at least three forest reserves.

The necessity for this action has been apparent for some time. The northern watershed of the state stands much in need of some protection in the way of conservators for the water and snow which fall in that section and find their way to the Sacramento river, which at certain seasons of the year overflows and submerges the lowlands, destroying crops and laying waste valuable property. The forest cover has long been admitted to be the best conservator for rain and snow as it holds in reserve a large percentage of the moisture which falls on the earth.

Marsden Mason has shown that the forests are far better conservers of water than the most extensive system of reservoirs that the wealth and industry of man could furnish. The total estimated artificial storage capacity of the drainage basin of the Yuba river, for instance, is only 3.3% of the precipitation. If the forests were removed it wold be impossible at any expenditure to supply their place in water conservation.

Two subjects ought to take precedence in the public mind in this state. One is irrigation, the other tree planting and forest reservation. It has been proven beyond dispute that we can have no successful irrigation without trees or forests, for we can not well preserve the water without the forests are maintained.

This thought was tersely expressed by the President in his speech at Sacramento in May of this year. In that address he said:

"I have just come from a four days' rest in the Yosemite; and I wish to say one word to you here in the capital city of California about certain of your great natural resources—your forests and the water supply coming from the streams that find their sources among the forests of the mountains. California possesses a wonderful climate, a wonderful soil, and throughout the portions that I have visited it is literally astounding to see how the land yields a hundred and a thousand fold when water is put upon it. Where it is possible to irrigate the land, the result is, of course, far better than having to depend upon rainfall anywhere, but no small part of the prosperity of California in the hotter and dryer agricultural regions depends upon the preservation of her water supply, and the water supply cannot be preserved unless the forests are preserved. As regards some of the trees, I want them preserved because they are the only things of their kind in the world."

It is well that the government is turning its attention to this important branch of public improvement, and it is to be hoped its efforts along this line may be seconded by association and individuals, intrusted in the great work of preserving the forests, to the end that the water sheds of the state may be protected and irrigation made more general.

The illustration on the cover of the Cultivator fairly represents the glory of the Sequoia forest before the introduction of the woodman's ax. Today unfortunately, the scene is changed and where once stood the splendid pines and oaks nothing but scrubs and brush are now in evidence.

CAN NOT RIVAL CALIFORNIA.

Some heavy shipments of oranges are reported as having arrived in the eastern markets from Mexico, and it is claimed that these shipments will increase each year, and that there is danger of Mexico becoming a dangerous rival with California in the citrus fruit industry. There is little danger to be apprehended from this latter cause, but in these heavy shipments of citrus fruits from our sister republic there is more real and threatening danger, which it will be well for us to guard against. The Morellos orange maggot, starting in the state from which it derives its name, has now spread over nearly the whole country, until there are few sections immune from its attacks. This is one of the most disgusting of the fruit pests, as it reduces the fruit to a mass of rotten pulp, crawling with maggots. The presence of the pest is not noticeable until the damage is done. The eggs are laid in masses as the fruit is ripening, they hatch out small maggots, which at once commence eating their way into the fruit. Their presence renders shipping uncertain, as the keeping quality of the fruit is impaired, but it may reach the table before the presence of the maggots is discovered. It may be readily seen that, when it is known that in purchasing oranges the buyer is likely to get a mass of crawling maggots with it, the market will soon be curtailed and prices drop. It is here that the serious danger from the importation of Mexican fruit is to be found, and not in any competition in our markets. When this class of fruit finds its way into the United States, it is very difficult to prevent its introduction into our orange sections. Eastern tourists may purchase the fruit en route and bring it with them, and finding maggots in it throw the infested specimens from the car windows, and then the damage would be done, or there are a thousand other ways in which it may obtain a foothold. While we have a strict state quarantine against the introduction of infested fruits and plants from foreign points, California has no jurisdiction over outside points and it is impossible to protect her whole border from the introduction of these or other pests in the manner set forth. There should be an international quarantine system. Fruits, trees, plants, etc., likely to introduce infection should be admitted only at certain ports, and here there should be stationed competent inspectors, and when there is a serious pest, as this orange maggot, the fruit that breeds it or the section in which it is found should be quarantined against. We have not got this pest, we do not want it, and every effort should be made to convince the government to that effect, for the citrus industry now is a most important one and the introduction of the Morellos fly may ruin it. Competition is not half as much to be dreaded. That may lessen our profits, the maggot will destroy them entirely.

THE BUSINESS PULSE.

Despite the uneasiness which has prevailed at times during the past week in the commercial world, there is reason to feel grateful that, on the whole, business has held its own, and that instead of discouraging signs there are encouraging features about the industrial and trade situation. The only uneasiness manifested has been in the stock market where, between the bulls and bears, an interesting condition has existed.

The critical situation of affairs in the Orient has had a tendency to unsettle financiers and cause them to take account of matters in order to be ready for any emergency that may present itself.

Building operations have been resumed in many of the larger cities and the prospect for great expansion along this line of industry is flattering in the extreme.

The movement of merchandise and manufacturies has quickened if anything, and the great continental transportation companies are increasing their facilities for the carrying of the vast crops which are being harvested East and West. The only matter of concern is whether the carrying ability of the railroads will be equal to the demand upon them. It is very doubtful if it shall be. In the staple products the tendency of prices has been downward, and this has benefited both domestic and foreign trade. The movement of wheat in the interior has grown larger and export figures show a good gain.

There are some irregularities in the manufacturing centers, but on the whole the situation is fairly good. Iron ore production is restricted and furnaces are feeling the effects of an over supply, but no uneasiness is reported in the metal industry as a whole. Cotton mills are still affected by the raw cotton market and are waiting for normal conditions. Wool mills and shoe shops are busily engaged and industry at large is keeping pace with the general progress of the country. There is apparently a disposition on the part of labor, in certain quarters, to accept more reasonable demands and to go to work on terms which contractors can build on. This is having a brightening effect on things all along the line of trade and industry.

WAR SEEMS IMMINENT.

The war clouds are gathering darker linings each day in the East. That the world is to witness a contest between Japan and Russia seems today almost an assured fact, because of Russia's ambition to possess the peninsula of Corea. Russia has all along professed not to be preparing for war, so has Japan, but nevertheless, preparations have been going forward by both governments which leave no doubt in the minds of the statesmen both in America and Europe, that war is expected and must come.

Of course it is generally believed that Russia will conquer Japan, and if so, the question arises, what will be the effect on American interests. It is further believed by our leading statesmen that there is more professions of "good intent" on the part of Russia toward this government than purpose and that she feels in case of immediate war with Japan she can practically ignore or defy us. She feels that such an excuse must be accepted as ample for abrogation of all her promises in regard to that region. In any event, she does not fear the possibility of armed intervention by the United States.

So far as other powers are concerned they will probably keep hands off, confining their interest to moral support which will be so weak as to avail nothing—as usual.

A correspondent writing from Manchuria, says, "the feeling in Japan is so intense that it will be impossible much longer to avert war unless Russia changes her attitude toward Japan very quickly."

So far as the United States is concerned it will hesitate to take any decided stand between the two contending governments unless our interests are threatened with irreparable loss. We can not afford to lose valuable rights in the territory in dispute and we shall feel keenly any break with Russia which at the time of our civil war was our steadfast friend. A war would benefit American trade and commerce, but it is to be deplored nevertheless.

From a Business Standpoint

By J. W. Jeffrey, Los Angeles

DELAYED INTELLIGENCE.

It is gradually sifting into the understanding of the ill-wishers of the East that there is to be no disruption of the California Fruit Exchange or the California Fruit Agency. This intelligence though somewhat tardy in finding lodgment where it will do good, seems at last to have taken hold of the citrus fruit trade. And now we read fulsome eulogies of the whole plan under which the Californians propose to manage their own business. The men who brought about the reconciliation of the San Bernardino Exchange are spoken of as masterful, adroit and up-to-date, and the forces which were erstwhile predicting a general abandonment of the co-operative plan are now swallowing their medicine.

The falling away of the co-operative method of marketing citrus fruits would be a calamity outside its effect upon the citrus fruit industry. For nearly ten years it has been an example and an inspiration to other lines of co-operative effort. The birth of the Exchange occurred when utter chaos reigned and ruin stared the growers in the face. Growing in the face of the most strenuous oposition ever encountered by a popular movement and gradually establishing the fact that it was based upon business-like principles it has finally been approved by practically all the growers and adopted by the former independent dealers. Those who had thought it the only example of the successful organization of the agriculturist in the land trembled at the effect that would follow the dissolution of the co-operators' organization. The Exchange had demonstrated its ability to keep abreast of all difficulties by adopting new lines of policy as the necessities of the situation developed. But this season, in the face of the biggest and poorest crop of citrus fruits ever produced, competition of Florida, high freight rates and heavy refrigeration charges, the Exchange met propositions too stupendous to be handled with only one-half of the crop under its control. Internal competition within its business, the holding back of inordinate qquantities of fruit and the consequent over-loading of the markets caused the same great forces that had held the growers in line so long call for a readjustment that should bring under one management at least 90 per cent of the fruit. That an entirely new plan be adopted was patent to all, for it had been found impossible to gather more than one-half of the growers into the co-operative organization. The fruit dealing firms with 50 per cent of the growers backing them could not be ignored, and should not be as long as they had such a hold upon the trade, and the result was the formation of an agency that must work to the betterment of the entire industry.

The extent of the calamity threatened by the withdrawal of a considerable number of associations cannot be contemplated without fear. Had the old-independence of action resulted, all the work of the decade would have been set at naught and old-time chaos invited. Never in the history of citrus fruit growing has united action been so essential as at the present time. One cannot contemplate the array of excommunicated commission men and other irresponsible dealers without seeing the strength of the enemies of awaiting with glee the first evidence of disintegration among the growers. Disaster would be a mild term to apply to the results that would inevitably have followed the dissolution of the mutual marketing plan and it is pleasant information we are receiving that the growers are standing fast all along the line. Outside the lines of practical experience gathered in the last decade in this business, the brightest commercial minds of the age have long since demonstrated that unity of interest is essential. There is need of it in no line more than in that of the citrus fruit industry of California.

The pulp of the sugar beet is growin in popularity as a feed for the dairy cow.

..General Agriculture..

Six months without any rain in this valley and one of the best fruit and grain crops known for years!—Sutter County Farmer.

The record for the season was made at the sugar factory on Monday, when 935 tons of beets were sliced in 24 hours. Saturday and Sunday there were worked, respectively, 890 and 888 tons, showing good steady progress in reducing the crop. There have been sliced to date 45,000 tons.—Chino Champion.

The San Diego Silk Company, organized about a year ago, has made good progress and the prospects for the coming year are very flattering. Considerable silk was produced by the company this season; quite a grove of Mulberry trees has been set out at South San Diego, and several acres more will be planted this winter.—Riverside Press.

At a recent meeting of the directors of the California Grain Growers' Association, the statement was made that the farmers pay each year about $1,500,000 for grain sacks. This, it was claimed, might be saved to them if they would ship their grain in bulk. It was urged that the growers should provide proper storage facilities.—Santa Paula Chronicle.

The Southern California grape growers intend to follow the plan of the citrus fruit growers and will organize an association to protect themselves. The company will organize with a capital of $100,000 to $200,000, build a large winery and make and handle wine for themselves. This will have sufficient capacity to crush all the grapes the local growers can produce.—Citrograph.

The Santa Fe Railway Company has broken the record this season on transportation of California fruits. It is stated that this season the company will haul about 1800 cars of fruit, an increase of 3500 cars over last year. An order for 500 new refrigerator cars has been given and when received the Santa Fe will have over four thousand refrigerator cars, and will be independent of the Armour car line and other companies operating private cars.

"It doesn't make so much difference now whether we have good crops of apples, apricots, plums, etc., in Europe or not, says Consul General Mason in Rural Press. The American dried fruits fix the standard, both as to the quality and price and they will sell here to the extent that the American consumers can spare for export, no matter how great or small may be the home supply of native fruits. Your people have the sunshine, the soil and the improved varieties, with which our growers are unable to compete."

On the farm of B. Distel, near Mountain View, in Santa Clara county, a government experimental station is about to be established. Ten acres of land will be converted into an experimental vineyard for the purpose of testing all kinds of resistant stock and all varieties of wine grapes with a view of ascertaining what particular resistant is specially adapted to the soil and climate of Santa Clara valley. About sixty-four varieties of resistants will be experimented with and thousands of seedlings will be grown.

MOJAVE FOR GRAPE GROWING.

Local grape growers will watch with interest the experiment to be made by George Hussman for the United States department of agriculture, who will demonstrate the feasibility of converting part of the Mojave desert into a vineyard.

Already experiment stations are established for grape growing in various parts of the state, but the one at Mojave will claim all the local interest It already has been demonstrated in the Colorado desert that table grapes are most successfully produced in such regions and the same result is looked for at Mojave.

EXTRACTING OLIVE OIL

A representative of the "Cultivator" recently visited the Sonoma county Pioneer Olive Mill, owned by Dr. J Prosek, of Guerville near the Russian river. The doctor has 100 acres in olive trees and between the rows of the trees there is a vineyard of wine grapes Dr. Prosek's method of extracting olive oil is quite unlike the ordinary procedure. The olives are first run through a small mill which crushes the flesh only. The crushed substance is next put into a jute cloth. This cloth containing pulp is next placed in a square frame, made of inch boards, 24 by 30 inches, four inches deep. When the frame is full the ends of the cloth are folded secured over the top and the board frame or band removed. After several packages are thus made and piled up one on top of the other, the column is put under pressure, the oil crushed out, the pulp is taken from the cloths and run through the arasta crushing both the pits and flesh thoroughly. The difference of operation in extracting the oil under this method from the old one, is that the pits are only run through the arrasta once, while under the common method the olives are run through the arrasta and hydraulic press three times. Another difference is in the methods of extracting the water before running the olive through the arrasta.

The oil is taken from the press and put in large tanks for settling or ripening. After the settling the oil is then racked the same as wine, and run in a large tank having several faucets, one above the other, where by means of these faucets the oil is drained off from the top faucet and the water from the lower. The oil is taken from this tank and bottled ready for sale. Instead of the different system of filtering the doctor claims that the racking process is better, and holds that filtering changes the taste of the soil.

SAN DIMAS HORTICULTURAL CLUB.

San Diman Heights Horticultural club held its monthly meeting at the home of J. W. Walker on Tuesday evening of last week. One hundred and sixty guests were seated in the dining room, while over fifty were seated in the hall, in all 210 members and visitors.

The programme consisted of papers and addresses by Bryce M. Given, of Charter Oak, James A. Johnstone, E. W. Hart, Frank J. Johnston, W. D. Ellis, Prof. C. F. Baker, who was to have read a paper on "Humbugs," was unable to be present. But will doubtless read his paper at the next meeting of the Club, Nov. 3rd. Frank Wheeler, the President of the Club called attention to the attacks on Prof. Cook by a paper in Los Angeles, and James A. Johnstone presented a very strong resolution endorsing Prof. Cook and his work at the Institutes in this part of the state.

PAYS A DIVIDEND.

The Hollister Irrigation Company paid this week a dividend of $1 per share to the stockholders of the concern. This is the first dividend that has been distributed by the corporation, although it has had an earning capacity for some years past, the surplus being utilized for extensions and substantial improvements. These have been completed in a highly satisfactory manner, which will prove a material benefit to the company in the future. Since its organization the irrigation company has proved itself of inestimable value to the people of this section, converting as it did, the lands along its ditches into profitable orchards and large producing alfafa fields. While the company at times has been handicapped for an extensive water supply the directors were equal to the occasion and to whom a great deal of credit is due for their satisfactory distribution of the water for irrigation purposes. They deserve further praise for their economical management of the company. The Hollister Irrigation Company is an improvement of incalculable value to this valley.—Hollister Free Lance.

Citrus Fruits

Azusa oranges took the gold medal at the Irrigation Congress, and the Pomotropic rises up to congratulate its county and its orange growers on the "glorious fact."

It is announced that the foreign lemon crop will be delayed at least a month, owing to bad weather conditions. This will put the California crop on the market in just about the right time.

Florida is going to have an abundant crop of oranges this season and the fruit is of the best quality. A commission merchant who has been through the state writes that the state has the best prospects in years. The grape crop, however, will be short.

The commissioners for California have been notified by the World's Fair management that the space heretofore allotted this state has been reduced. It was desired to get some additional room for our exhibits, but it now appears that this can not be secured.

Speaking of the coming orange crop in Tulare county, the Lindsay Gazette says: The crop to be handled is reported to be first class in quality and as we have heard no complaints of shortage of yield it is safe to estimate our season's output as at least 400 cars.

The Redlands Board of Trade is arranging to send five carloads of oranges to the World's Fair at St. Louis for free distribution and exhibition. The committee chosen to take charge of the forwarding is composed of C. M. Brown, H. L. Graham, H. P. D. Kingsbury, J. R. Spencer and C. J. Curtis.

Southern California awards at the recent National Irrigation congress at Ogden are these: Oranges, Azusa Foothill Citrus Association, Azusa, gold medal; lemons, C. W. Leffingwell, Whittier, gold medal; pickled olives, James Hill & Sons, Los Angeles, gold medal; oranges, C. C. Chapman, Placentia, second prize; lemons, Lemon Growers' Association, North Ontario, second prize; olives, James Hill & Sons, Los Angeles, second prize.

Another large tract of land is to be planted out to navel oranges this coming season. The land is situated south of Plano, formerly known as the Mitchell place, but now owned by J. Sullivan of Emerson, Manitoba. Mr. Sullivan writes that he will be here the latter part of November, when he expects to put down two wells to irrigate eighty acres of his land, which he will plant to oranges, and that he has already placed his order for 5000 trees with George McCalister.—Riverside Enterprise.

SAN BERNARDINO COUNTY FRUIT EXCHANGE.

The ninth annual meeting of the San Bernardino County Fruit Exchange was held at Colton on Thursday. October 8th.

The following officers and directors were elected for the ensuing year: James Barnhill, president; J. S. Edwards, vice-president; Earl F. Van Luven, secretary and manager; S. H. Barrett, E. J. Yokam, A. L. Drew, L. H. Winston and G. N. Turner. The managers annual report showed that the total shipments for the season amounted to 238,954 boxes, equal to 660 car loads, an increase of 47% over last season, the fruit being sold for $576,612.11, or net f. o. b. $343,016.21. The average price per box f. o. b. for everything shipped, including oranges, lemons and grapefruit, was $1.44. The average price per box f. o. b. for everything shipped of the different varieties, including all sizes, was: Navels, $1.43; Valencias, $2.15; Seedlings, $1.09; Med. Sweets, $1.40; St. Michaels, $1.74; Bloods, $1.44; Lemons, $1.25. The fruit under the control of this Exchange for the coming season is estimated at from 1300 to 1400 cars.

California Horticulturally

JOHN ISAAC, SACRAMENTO

THE NEXT FRUIT GROWERS' CONVENTION.

It has been decided to hold the next Fruit Growers' Convention at Fresno, commencing on the morning of December 8th and continuing until the following Friday, the 11th. The chief subjects which will come before the convention on this occasion will be in relation to the raisin industry, wine grapes, citrus fruits, transportation and marketing, and co-operation. Arrangements have been made with both railroads to secure to members of the convention reduced rates of transportation, and the people of Fresno will see to it that ample entertainment is provided for their guests outside of the convention. The holding of this convention in Fresno is in accordance with the express wish of the last convention, at which time it was decided by vote to hold it there. The location is convenient and within reach of all parts of the state, both north and south, and as the topics to be considered are of the greatest immediate importance, and will be discussed by the best and most practical men in the state there will be without question an unusually large attendance.

* * *

GRAPE MEN ARE STILL SORE.

There is no abatement in the disappointment felt by the wine grape men over the extraordinary and sudden depression in the price of their product this year. With good crops and every prospect for good prices, the sudden slump came like a bolt from a clear sky. There is a world of growling, but it does the grower no good, except so far as it enables him to let off some of his surplus indignation, for he is in the door, and he can either take what is offered him by the wine combine or let his grapes rot on the vine. It may be that out of this some relief may be had another year by the growers themselves combining and manufacturing their own wines. One thing is made very clear by the action of the wine association, and that is that the unorganized are wholly at the mercy of the organized, and that in organization is the only hope for the producer.

* * *

SQUIRRELS AND JAYS DISAPPEARING.

Does life on this earth move in cycles, and when it has reached a certain stage either get a set-back or disappear entirely? Geology, and even modern history, furnishes examples of the disappearance of species that were probably up to a certain period, existed for practically all time on the earth, only to disappear when their time limit had arrived. In other cases sweeping epidemics have reduced the species to the lowest limits leaving only enough to give them a fresh start. Word comes from San Mateo county that for miles out at sea on the coast side of that county the ocean is covered with dead fish, while the shores are lined with perfect windrows of them that has been washed ashore, and no cause can yet be assigned for this remarkable mortality. In parts of the state where the blue jay has been one of the greatest of pests for years, where it had driven out all of the other birds by robbing their nests, and where it was a race between the farmer's wife and the bird for the egg when the hen cackled, with the chances in favor of the jay, not a bird of this species has been seen this season. The ground squirrel, too, that abomination of the farmer all over the state, has almost entirely disappeared over large areas in the northern counties and the cause so far is a mystery, although it is supposed that some contagious disease has been sweeping them off the face of the earth by millions. It is a fact that over large areas where you could in former years see these pests by the score, and count them by hundreds, they are now rarely to be seen. very much to the satisfaction of the farmers who have heretofore suffered severely from their depredations. The Secretary of the State Board of Health has been investigating the cause of this disappearance, and says that it is his impression that it is some special disease which the squirrels have acquired that is killing them. If it is found that the disease is of a special nature and not detrimental to human kind an effort will be made to obtain the virus for distribution in other sections where the disease has not yet appeared.

* * *

SUFFICIENT FARM HELP THIS SEASON

While it would have been possible to have used many more people in the orchards and packing houses than have been employed this season, the shortage that was feared at its opening has not occurred. There has been sufficient help in most parts of the state, especially in the deciduous fruit sections, to care for the crop without serious losses such as occurred last year. It is true that in very many cases long hours have prevailed and the people employed have been worked overtime, but now the season has come to an end and there is no complaint of any serious shortage. This is unquestionably due to several causes. First to the fact that the growers and packers expected a repetition of the experience last year, and had trimmed their sails to the breeze and were prepared to do the greatest amount of work, with the smallest available help; secondly, all available help was pressed into service and many women and children, students and others, who had not before taken part in orchard work gave their time to help over the rush period, but still another and perhaps the most important factor was the work done by the Promotion Committee aided by the committee of Fifteen on Labor appointed at the Fruit Growers' Convention in San Francisco last year, and of which Hary P. Stabler is chairman. In this work, too, material assistance has been received from the railroad companies in this state in the way of reduced rates for immigrants and facilities extended for advertising our needs and advantages in the east. It is not now probable that we shall again, or for a long time at least, be called upon to face as serious a shortage in the farm labor market as we were last year.

* * *

CALIFORNIA CAN GROW APPLES.

We remember in early days that there was a sort of a tradition that apples could not be grown in California, and so deeply grounded was this tradition that no one tried, and if any one planted an apple tree he was looked upon as an heretic to the true faith. Some enterprising men however started in to raise apples and soon proved that the old time dogma was a mere superstition, that apples could be grown in many parts of California and the best apples in the world at that. All along the coast section of the state there are vast extents of splendid apple land, while in the mountains there are thousands of acres upon which fruit, unequalled in quality, can be grown. It seems strange that a state where a few years ago its own people believed apples could not be grown and had settled down to that belief, is now shipping this fruit to Europe, to markets heretofore exclusively filled by the eastern and Canadian apple sections, and even shipping this fruit of the northern states into those states themselves. Watsonville, the center of the Pajaro Valley apple district, is now shipping several carloads every day, and before the season is over will have sent out over 1000 cars, to European and eastern points. This is good for a state that a few years ago declared she could not grow apples. The fact is, Californians never know what they can do until they try.

PRESERVING SWEET POTATOES

Bulletin No. 71 of the South Carolina agricultural experiment station, on "New Method of Preserving Sweet Potatoes," contains a discussion of a new method of evaporating sweet potatoes. The problem which the station undertook to solve, was to reduce the bulk and weight of sweet potatoes by drying off surplus moisture and so sterilize the product as to exempt it from fungus diseases to which the green product is subject, and at the same time without impairing the edible qualities of the desiccated product.

In 1889 the roots were peeled, sliced and dried in a movable evaporator. This rendered the product non-perishable, but destroyed the flavor. The surplus moisture was removed, but the absorption of the moisture was not satisfactory. In 1900 a satisfactory article was produced by boiling the potatoes before evaporating them. This process was irregularly done and was not demonstrated to be a complete success until in the fall of 1901. At this time a room was equipped for steam heating in connection with a cannery of the experiment station. By means of a derrick used in the cannery several bushels of the green potatoes were lowered in an iron basket into a large boiler, in which the water was heated by steam. Those weighing from one to two pounds required one hour for thorough cooking and six to eight hours were required for evaporating them at a temperature of 150 degrees F. An ordinary laborer peeled and sliced one bushel per hour.

A large number of varieties of sweet potatoes were evaporated in this way and it was proved that the evaporated product was not only not perishable, but contained only 3.42 per cent of moisture and will keep for an indefinite time and bear transportation to any part of the world at any season.

To prevent hardening the product it should be packed in close boxes as soon as possible after removal from the hot room. In preparing the potatoes for cooking the slices should be soaked in warm water for an hour and prepared the same as dressed or candied potatoes. The desiccated potatoes may also be used as are the fresh roots for puddings or custards.

Olive oil is fast becoming one of the staple products of the valley, says the Oroville Register, especially of the foothills regions, and the success attained in the growing of this fruit is scarcely second to that which has attended orange culture.

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J. W. MILLS, ONTARIO, CAL.

GRUBS IN STRAWBERRY LAND.

Editor Cultivator:—Please inform me through your paper how to prevent grubs from getting a start in land which is to be heavily manured for strawberries and what to do with a bed that is already infested with grubs.—F. H. H., Escondido.

The grubs that you refer to are undoubtedly the larva of the "June bug" that doubles itself up when disturbed. If that is the pest you have in your strawberry bed and it is numerous enough to injure the plants, the only thing you can do is to plow the ground up and let it lay fallow or else grow a couple of crops of hay on it and allow the land to become dry and hard for two seasons. This grub requires three years to mature and the only way to run it out is to treat the land so that it is distasteful to the insect. The mature bug that lays the egg from which the grub is hatched, flies at night and burrows in the ground before day light. It will burrow in the ground beneath any tree or plant on which it happens to be feeding, provided the soil is not too hard. When the egg laying season comes, it selects soft moist earth in which plants are growing, or else a manure pile. The latter is a favorite place for them and the small worms may be seen by the hundreds in well rotted manure. Manure which contains the small grubs should spread out and made absolutely dry before placing on a strawberry bed or ground to be used for strawberries. The adult insect, or the grub, cannot stand sunlight and the grub will soon perish if the manure is allowed to dry in the sun. Plow up your grubby patch and sow it to grain and do not plow the land until you sow it again. The object is to get it as dry and as hard as possible, with no edible roots for the worms to feed on. If the land were allowed to lie idle for two years with no weeds growing on it, you would be sure to make a clean sweep of them, but a hay crop will give them a hard tussle, and give you some returns.

* * *

HOPS IN SAN DIEGO COUNTY.

Editor Cultivator:—Will you please inform me through the columns of the Cultivator or otherwise, whether hops can be successfully grown in this locality with irrigation, and can you refer me to some good publication on hop culture.—J. H., Pacific Beach.

Unless you have a deep, rich and naturally moist bottom land, we should discourage any idea of growing hops for profit. They are only profitable where the soil is a deep river bottom loam and irrigation is unnecessary. Even in such localities the crop is often a money loser. Hops do not take kindly to irrigation. They will not stand having the soil packed near to them and the soil cannot be disturbed around them after they begin to grow. The cost of equipment is very great, the kiln alone for curing hops from a 20-acre tract will cost $2,000. The other items of expense are very heavy, but vary in different localities. The price of hops varies from 5 cents to $1.10 per pound for the growers, so it is a very uncertain crop as far as profit is concerned. The expense of irrigation would make the chances of profit much more variable. The best publication we know of on the subject is Farmers' Bulletin No. 115, entitled Hop Culture in California. Address the Secretary of Agriculture, U. S. Department of Agruculture, Washington, D. C.

* * *

PEARS AND SICK ORANGE TREES.

Editor Cultivator:—I have four Winter Nelis pear trees and only one of them bears any fruit and that is very unsatisfactory both in quantity and quality. What fertilizer can I give them to make them bear fruit? The mottled leaves I enclose are scattered nearly all over my orchard. I used last fall, stable manure and in the spring nitrate of soda, also during the summer my largest trees (19 years old) had a small additional amount of the latter. Is it possible that all of the trees have had too much nitrogen? I shall be very greatly obliged if you can tell me what to do in either case.—M. T. A., Pomona.

Your experience with Winter Nelis pears coincides with our own. The usual difficulty in such cases is that failure to fruit is due to lack of proper pollination, but in our case we were sure that we could not improve that condition, for we had over sixty varieties of pears blooming in close proximity to our Winter Nelis trees, yet there may be some variety that would do the work. Our advice is, to graft the trees to some other variety. We prefer for a selection of four trees, Lawson, Bartlett, Seckel and St. Andre. These trees will furnish you with good pears from the first week in July till the 15th of October. St. Andre ripened its first fruit this year on August 10th and we have eaten fresh and baked pears from it ever since, and they will last until the 15th of this month.

We cannot give you any satisfactory solution to the mottled leaf that is affecting your orange trees. That is caused by so many different disorders of the tree and soil that we should have to know all the details to even give a reasonable guess. We are quite certain, however, that you applied the stable manure at the wrong time of the year. Stable manure will stimulate growth very soon after applying it, and a fall application will bring out growth that cannot harden up before freezing weather sets in. All nitrogenous fertilizers that are so immediately available as stable manure and nitrate of soda should be applied in the spring, say after the middle of March. Too much nitrogen might cause mottled leaf. But it is not likely that it causes it on your 19-year old trees, unless you have been dosing them with it pretty heavy for some time. It is our opinion that if you make your irrigation furrows at least a foot deep and run the water in them for not less than 24 hours, and beter still, 48 hours, there will be a change in your trees. We take it for granted you have not done this, for it is an expensive way to irrigate and the furrows have to be made by running a plow twice in the same place. If you dig down three or four feet, you can determine whether the lower roots are in soil too dry to give much support to them, and if such is the case, deep furrows and a long run of water will undoubtedly help your trees. The length of time that you should run the water without loss, can be determined by boring down by the side of the furrow with a post-hole auger. Ordinarily, the water should be turned off when it has penetrated to a depth of about seven feet. That sort of irrigation will last your trees much longer than two or more irrigations given in furrows made with a "bull-tongue" furrowing-out machine. On very thin gravely soil, furrows a foot deep may not be as desirable as shallow ones. These local questions can only be settled by examination of the subsoil after irrigating.

* * *

SMALL SPRAY PUMP.

A subscriber wishes to know where he can buy a small spray pump with which he can spray a few trees in his yard. The pump must have a good mixer attached. We would refer him to any of the seed men or implement firms which advertise in this paper. He will find just what he wants, for they carry goods of all kinds that are useful to the small grower or city-lot gardener.

* * *

KILLING WORMS IN ALMONDS.

A reader asked us the other day if sulphuring almonds would kill the worms that might be in the new crop of almonds or prevent others from infesting them. Sulphur fumes will do both, but the nuts will be ruined if they are paper shells. Sulphuring paper shell almonds will render them tasteless and give them a rancid flavor. They should be fumigated with bi-sulphide of carbon when there is reason to think that worms are after them. Place them in a barrel and on top of the nuts place a half pint of the liquid in an old can and place two or three sacks over the top of the barrel so as to confine the fumes. Leave them so until all of the liquid has disappeared. Air the almonds in the sun during the hot part of the day when no millars will be flying around and put them in a tight sack. This process will kill all millars or worms that might be in them and from time to time, examine the nuts to see if any eggs have hatched out after fumigating. If so, give them some more bi-sulphide and that will end the trouble. Hard shell almonds may be sulphured as dried fruit is, but it is too much trouble, unless bleaching is desired.

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GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 14 **FRESNO, CAL.**

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

(Continued.)

We are now discussing the bugs or insects of the order Hemiptera. These, it will be remembered, all have sucking mouthparts and do not bite they rather suck the blood or juice as the case may be. Of the animals that we have discussed so far, the Crustecea or lobster group, have formidable jaws and bite. The myriapods do the same. The mites pierce and suck, and it is by withdrawing the juices or blood that these animals do their injury. The spiders and scorpions bite, but as we will remember are all our friends and so do not eat up our plants. In the class, insects it will be remembered that the lacewings and locusts are all mandibulate. They bite and eat while the bugs or Hemiptera are all sucking insects, and like the mites may suck the juices from plants or the blood from other animals. They cannot, therefore, be killed by feeding poisons, like Paris green. These, by the way, are the only sucking insects that we have considered thus far. We shall find that in this respect they keep company with the two winged flies and the moths and butterflies. The other two orders, beetles, and bees, ants and wasps, are included in the biting forms.

* * *

Homoptera.—We yet have to consider among the bugs the non-typical bugs, or those in which the front wings are much the same as the back one, and the front wings similar from one end to the other and not thickened at the base.

* * *

Family Cicadidae.—The Cicada is one of the most interesting of insects. It is here that we find the seventeen year cicada, often incorrectly called the seventeen year locust. They are large, robust, dark colored insects with broad heads, prominent eyes and sloping wings. Their song is a long sharp trill resembling somewhat the song of the katydid. The song often leads us to find the insect, which would be seldom discovered except for this. The insect does little harm except in laying its eggs. These are laid in slits made in the trees. The cutting of these slits often causes the twigs to die and thus orchards are often pruned in a way to greatly displease the owner. As the young hatches, it falls to the ground into which it tunnels. For protection, it digs deeply where the food supply is meagre and where the warmth is not sufficient for rapid development. These two reasons prolong the larval state so that in the one species they are seventeen years in gaining their full development. There is also a thirteen-year cicada and others which pass less time in the larval state. There are several places in Eastern United States where the seventeen-year cicada comes regularly. I have had opportunity to study them at Ann Arbor, Mich, and at Cincinnati. O. When the imago or mature forms are numerous in the trees, as they are apt to be in late summer, the noise of their songs is so pronounced that it is with difficulty that persons riding in a carriage can converse. A small species is not uncommon here at Claremont. Although the Cicada lives on the roots of our plants, they are so slow of development and feed so leisurely that so far as I know, they do but little harm.

* * *

Lantern Fly Family.—These insects are so named because some species, none of which, however, are native to our country so far as I know, are phospherescent, and so furnish oftimes, not a little light. Thus we have the large lantern fly of Brazil and the Candle fly of China. A common gray species, usual at Claremont, shows a marked prolongation of the head in an upward direction.

* * *

Spittle Insects, or Frog Hoppers.—Most observant people have noticed a white froth like spittle on many of our plants during summer. Careful inspection will find a larval insect in the midst of this froth. I have heard it suggested that they breathe oxygen from the foam which surrounds them. Many suppose that the spittle like substance is but the sap of the plant, which they suck from the leaves or stem and pass out from their aliamentary canal. The mature insects look not unlike beetles and are rather broad for their length. I suppose the name frog hopper comes from the fact that the foam was formerly supposed to be the product of the tree frog. Although these spittle insects suck the juices from plants, I doubt if their numbers are sufficient to do very considerable harm.

* * *

The Leaf Hoppers.—The leaf hoppers are broad headed sucking insects which are often very destructive, ranking second only to the aphids and scale insects. The grape vine leaf hoppers belong here and have done serious damage not only in California but in the East. They have been referred to as Thrips but of course are very different from these latter insects. They are often so numerous that one in passing through a vineyard will cause a swarm of them often consisting of millions to dart off from the vines. I believe that a proper use of distillate spray, much diluted and thrown upon them as they take wing might prove a very efficient remedy. I once recommended this to the vineyardists of Northern Indiana and it was practiced with considerable satisfaction. They hibernate under leaves, so the burning or stirring up of the leaves beneath the vines in the cold or damp of winter is often a great help. It was a species of these leaf hoppers that were so destructive in the vineyards near Fresno a few years since.

* * *

THE SCUTELLISTA.

As I look out the window where I am writing, two fine oleanders are full in view. A year ago these were quite badly infested with the black scale, which insects are especially partial to these plants. Through the kindness of Mr. Alexander Craw, I received a small colony of the Scutellista. These came in the early summer and were placed on the oleanders. In September, a new brood had come and the flies were found quite numerous in the trees. I collected some of these and gave them to a neighbor, who liberated them in his orange trees not far away. I take great pleasure in reporting that these little Chalcid flies have not only utterly cleaned my oleanders but have also gone onto neighboring orange, lemon and olive trees, and are doing most excellent work here. The orange trees are almost rid of the scale, the lemon tree apparently wholly, while I doubt if we shall ever be troubled to fight the scale upon the olive. The neighbor to whom I gave the insects a little over a year ago, has been able to gather and distribute a number of colonies to other neighbors of the community. Thus these little South African parasites are making their way and are putting up an excellent fight, and while I do not believe that our spraying outfit will go at present into "innucuous desueteude," yet I do believe that we may hope that the time is not far distant when we can give the fighting of the black scale entirely into the charge of the Scutellista. I would suggest that all interested get colonies of these insects and put them into pepper trees or into trees of the orchard not sprayed or fumigated and then spray the balance of the orchard. Of course we cannot yet say certainly but we have reason to hope as good things from the Scutellista as have come to us through the Vedalia. The only possible chance of failure rests in the possibility that some enemy may attack and destroy these little friends.

* * *

MONKEY-FACED OWL.

A. E. Engleheart, Glendora, Cal., desires to know how and where he can get a pair of monkey-faced owls—the owl that catches gophers and squirrels. As his orange grove is surrounded on three sides by hills, he finds these rodents a great vexation. I do not think Mr. E. needs at all to get these owls. They are thick all about us. Often during the night, I hear their screech, which, I dare say, often means one less gopher to trouble us. I wish they were even more numerous than they are, as I am assured that their principal food consists of the gophers. I think it would be impossible to catch them and keep them as we would cats. They are wild and would not submit gracefully to confinement. I think if we should even get the young and bring them up by hand, they would still cling to their wild habit and would not do as good service as they do now in the wild freedom which has ever been theirs. Our domesticated animals were not made in a day. It takes years to do the work.

* * *

SOWING BACTERIA.

Prof. C. B. Sumner has followed the wise practice becoming so prevalent in this region of sowing peas in his citrus orchard. It is now pretty late to sow and I am glad that in several orchards the peas are already up several inches. Prof. Sumner asks how we can best inoculate the soil with the desired bacteria. First, get soil where peas have been grown for a series of year. The least possible amount of this soil will inoculate the land. Why not soak the peas for at least twelve hours in tepid water. This will hasten germination and is valuable in itself. Then while yet moist, place these in a little of bacterial soil and enough will adhere to insure thorough inoculation. This as yet is all theory with me, but I believe would be the easiest way to distribute these soil bacteria.

* * *

BULLETIN ON SPRAYING.

The University Bulletin on Spraying is certainly timely and the scientific exposition will be welcomed by our fruitmen. Mr. Volk has certainly magnified the danger in the use of this valuable insecticide. If the rules which our as yet very limited experience has already demonstrated to be safe and best are strictly followed—and it is really as easy to do a thing right as wrong, if one is interested in his business, easier indeed, as it eliminates uncertainty—there need be no dropping at all of leaves, and as for dropping of fruit, I have yet to see any of that. Yet from my observation of late, I think we cannot repeat too frequently the necessity of cautious careful work. I think, however, there will be more danger from lack of thoroughness than from any falling of the leaves. Yet, as I have frequently insisted, every orchard before either spraying or fumigation, should be in the best possible condition. If Mr. Volk had been in the orchards as much as I have, he would not insist upon the necessary inferiority of spraying to fumigation, even in the orange orchard. In careful hands spraying may be quite as effective as it is qquite as safe as fumigation. Indeed, if the owner owns his sprayer and superintends his own work, it will be more effective than the fumigation is as it is usually done. I believe this matter of personal supervision is the key to the situation and the sooner our orchardists wake up to this fact the better it will be for them.

* * *

ORCHARDS INTERROGATED.

Last Monday in company with Mr. Goodrich, one of our very able, cautious, and conscientious horticultural inspectors, it was my pleasure to visit several of the orchards of Ontario, which had recently been treated for the black scale. We first visited the Allen orchard, on 5th street. This orchard was fumigated on September 3rd. In this orchard we found some of the fruit very badly burned, but evidently through no fault of the process, as the trees on which the foliage and fruit were injured were treated late in the morning, after the sun had risen, and as a very large amount of cyanide had wisely been ordered, both fruit and leaves suffered. The execution had been excellent. The orchard was grievously affected, the scale existing by the millions. Nearly all the insects were dead, yet every considerable twig that I examined, would show a very few live insects. One twig, a foot long, showed five live scale. These live scale often touched others which had been killed, and which differed from them very little in size. It is evident that these live scale had not hatched at the time the trees were fumigated. We thus learn two important lessons. We must not fumigate or spray until the insects are all hatched, unless, perchance, they hatch so unevenly that to wait would ensure some reaching a growth and development which would make it impossible to kill them. This year the scale are hatching so uniformly that it need not be difficult to do almost a perfect piece of work. I have visited Prof. Sumner's orchard twice, and I feel free to say that a thorough job of either spraying or fumigation at this time, or perhaps in some orchards will surely exterminate nearly or quite all of the scale.

We next visited the large orchard of Mr. Jones on 4th street. This orchard was sprayed on August 15. The effectiveness of the spray was fully equal to that of the cyanide in the orchard previously examined. The orchard was equally infested as one could hardly touch the limbs in some cases without touching a score of the insects. I think there was quite as large a proportion of the insects killed as there was in the other orchard, yet here as before we found an occasional live scale. Possibly there were a few more live scale though examination by actual count did not show it. Here as before, the treatment was too early. The live scale in this case also were close beside dead ones and of the same size, thus showing again that they had hatched since the spraying was done. Notwithstanding the very thorough work in this orchard, we could not detect that there was any injury done the foliage and there is no spotting of the fruit that need cause the least anxiety.

We next visited the orchard of Fred Rabe, on 3rd street. This had been fumigated on the 8th of September. Close investigation showed a very few live scale. Here again the fumigation was a little too early. The fruit in this orchard is considerably damaged by the fumigation. It is possible that here as before the work was done too late in the morning. This would seem the more probable, because other orchards where the fumigation was done in the same way, in no case were injured. I am told, however, that the night when this work was done was very warm. We can easily believe that either fumigation or spraying when the weather is very warm may need to be very carefully done not to produce any injury. Mr. Rabe feels very sore over the injury which he has received from the fumigation.

We next visited the large orchard of Mr. King, on Holt avenue. Something has spotted the fruit in Mr. King's orchard seriously. The orchard was fumigated I think the last of August. It may have been in early September. The spotted fruit is very characteristic. The injury seems deep as the cells are much shrunken, and there is sharp lines between the injured and the uninjured parts. I saw little injury of foliage. At first I thought this could not be the result of fumigation. Further examination led me to doubt. The spotted fruit is largely at the extreme top and outside of the trees and in almost every case just where the tent would touch the fruit. I am still in doubt as to the cause of the spotting. Mr. King contends that it is due to the fumigation. Others who have examined, are equally certain that it is the result of insect attack. As yet I am frank to say I do not know.

I am more and more of the opinion that spraying is bound to supersede fumigation, and that two points cannot be too greatly emphasized. The owner must look after the work, and the work must be done at the proper time. Again I urge that the orchardists own their own spraying outfit.

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Coast News and Notes

By R. A. Dague, Cor. Sutter and Sansome St., San Francisco

The hop crop of Shasta county was only about half what it is in ordinary years.

Four car loads of almonds were, one day last week, shipped from Dixon to Chicago.

The immigrants arriving at San Francisco, during September, were 296 Chinese, 110 Japanese and 244 Europeans.

The value of merchandise and produce shipments from San Francisco for the month of September aggregated $4,754,531.

E. S. Gray obtained more than five tons of grapes to the acre from his Geyserville ranch. He gathered 8½ tons of Zinfandels from a single acre.

The total shipment of fruit from Sacramento by the California fruit distributors, up to October 10th, was 6436 cars, as against 6384 to same date last year.

Profesor E. W. Hilgard, dean of the College of Agriculture, had special honors conferred on him the 9th instant, because of his distinguished services in agricultural research.

On the 8th instant San Francisco voted on the proposition to acquire the Geary street railroad. The proposition failed to receive the necessary two-thirds majority. There were 14,381 votes cast in favor and 10,755 against.

It is announced that the United States has passed the 200,000 mile mark in railroad construction. The mileage of Europe is but 175,000. This year the Russian government will expend $85,000,000 in building new railroads.

There is now on exhibition in the Oakland Board of Trade rooms, a branch of fifteen pears that grew on a three-year-old tree in the orchard of Mr. J. Seulberger, of East Oakland. The pears weigh on an average half a pound each.

The freight charges on California prunes to German ports is $1.10 per 100 pounds. From France to Germany the charge is 50 cents per 100 pounds. France is a formidable competitor of ours in Germany, owing to the difference in freight charges.

The shipments of dried fruits from San Francisco, during September, were 2,744,119 pounds. In September 1902 the amount was but 873,924 pounds. The great bulk of our shipments last month were to Germany, being 2,067,738 pounds of prunes, 37,200 of apricots and 37,300 pounds of pears.

The Harriman lines employ eight lecturers in the east who exhibit stereoptican pictures of pacific coast scenery, and who distribute literature. Mr. McKinney, general immigration agent of the lines, says through the efforts of his bureau, the population of Oregon has been increased by 44,000 the past year.

One hundred farmers, from Yolo and Sacramento counties, met in Sacramento one day last week and organized a farmers' protective association. Major C. J. Berry, the principal speaker, said: "This is not an organization for benevolent purposes, but to devise ways the farmers may get better prices for the product of his labor."

The Central California fair, held at Hanford last week, was in every way a success. The exhibits included samples of all the products of that part of the state. There were 526 individual displays of fine stock, and 52 varieties of fruit, vegetables and grain. Sixty horses were entered for the races. The daily attendance was large.

J. D. Pyle & Son, of Berryessa, have canned 30,000 cases of cherries, apricots, plumbs, peaches and prunes. They are now running on tomatoes. They expect to can 8000 cans. They are drying 300 tons of prunes. They regard the Burbank sugar prune the best, because of its extra large size They will plant forty acres to this prune next year.

The Niles dryers are shipping almonds heavily now to the eastern markets.

Virginia proposes to eclipse all other states in a tobacco display at the World's Fair.

Fruit drying is so nearly finished in Northern and Central California that the people now welcome rain.

J. Garliando, near Healdsburg, has sold his crop of prunes to the Merritt Fruit Company at $92.50 per ton.

It is claimed by reliable parties that an Oregon farmer this year raised a crop of oats that yielded 118 bushels to the acre.

The acreage of raisins in Fresno county is as large as last year, but the average yield will fall 15 per cent. of that of 1902.

The tomato crop in the vicinity of Mt. Eden is very large this year. The growers there ship 150 tons daily to San Francisco.

The Niles canneries are running heavily on tomatoes now. Tons are received every day, largely from the Tyson ranches.

The Sonoma Coal, Oil and Development Company have filed articles of incorporation at Santa Rosa. Capital stock $500,000.

The grape packers of Contra Costa county indulged in a little recreation one night recently by having a grand ball at Clayton.

The raisin growers, in the vicinity of Bakersfield, are shipping their crop to Fresno to be packed. About 500 tons will be thus shipped.

It is now definitely stated that the bean output of the Santa Maria valley will not exceed 90,000 sacks, which is 60,000 behind a full crop.

Up to this date the Hotchkiss winery at Windsor has crushed 600 tons of grapes, and the California Wine Association has crushed 1300 tons.

F. C. Story, bee inspector of Fresno county, reports that he has just finished inspecting 1593 stands of bees. He has found but five foul broods.

Recently new machinery was placed in the Mt. Diablo Vineyard Company's cellar and works perfectly. Great quantities of grapes are crushed daily.

California fruits are received with so much favor in France that the government is making official inquiry for the reason why our products are invading that country.

Fourteen thousand, five hundred acres are devoted to the raising of flower seeds in California. The receipts for seeds sold is nearly three million dollars annually.

The Utah legislature has set apart one day in the year to be known as Health Day. On that day every business, home and residence is to be thoroughly cleaned up.

William Corey, of Kingstown, Mass., a wood chopper, fell ill in the timber where he was working. He subsisted well for twenty days on grapes, which were in abundance near his cabin.

It is now announced that Andrew Carnegie will provide funds to enable Luther Burbank to erect a laboratory and experiment building at Santa Rosa and provide him with two assistants.

W. L. Hopper, of Sonoma county, is recognized as a successful grape grower. He gives his vines plenty of room and manures heavily. He sold his grapes this year for $16.00 per ton.

Estimates are now being made on the second crop of muscat grapes in Central California. The shortage will be very pronounced. The crop will not be over 40 per cent. of last year's second crop.

This year the weevil injured the cotton crop of the South $20,000,000. The Oakland Inquirer is of the opinion that the entomologists of the California University might be able to suggest a remedy for the pest.

700 Extra Fine Lemon Trees

Cheap. Also a few W. Navel, Valencia and Kumquats, Mandarin, Tangerine, Lime and Satsuma or Oonshiu. Headquarters for Citrus trees on Citrus, Trifoliata or Frost Resistant Stock.

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CITRUS SEEDLINGS

FOR FALL PLANTING—ORDER NOW

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D. A. PEET.....
GRAPE NURSERY

All the latest varieties. LA CANADA, CAL.

150,000
Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit All from plants direct from East. Very thrifty plants.

F. P. Baldosser, Covina

For Sale Cheap
COMPLETE PUMPING PLANT

10-Horse-Power Otto Gas Engine; No. 3 Byron Jackson Compound Centrifugal Vertical Pump, nearly new and ready to work. You can have it at a bargain.

T. G. CUSHMAN, SUNLAND, CAL.

Want Some Citrus Trees

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We will supply you. New Stock. Reliable and first-class. All Varieties.

POLLARD BROS.
Alhambra, Cal.

Send for our Illustrated and Descriptive Catalogue of

CITRUS AND DECIDUOUS FRUITS
DIFFERENT VARIETIES OF EUCALYPTUS
ORNAMENTAL VINES, ROSES

and everything for the orchard and garden.

Ontario, Cal.

THE
Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,
Station K, LOS ANGELES, Cal.

The Ellsworth drier, of Niles, has at this writing, shipped seventeen carloads of dried fruit and almonds.

The Kearney Packing House is running at full blast and sends two to three car loads of raisins daily to the Pacific Coast seeder.

R. G. Dunn & Co. report for the week ending October 10th, 223 failures in the United States, as against 245 in the corresponding week last year.

H. P. Conyers, of Green Valley, sold over 100 tons of grapes from 24 acres that ran 21-22 per cent. of sugar, at $15.00 per ton. This winter he will plant several acres of Lawton blackberries.

We have the best thing yet for preserving fence posts and all timbers under water or under ground, also for all iron roofing and pipe. If you will take sound, dry posts and properly coat with our preparation the part that is to be in the ground, the fence will stand up long after you are laid out. We manufacture the preparation (protected by patent) and ship in amounts required. One hundred pounds is enough for fifty posts. Any man can do the work. You melt up the mixture in a kettle, heat it to boiling point, keep it stirred and apply with a brush, if your kettle is not deep enough for dipping. Full directions sent with every shipment. The posts are ready for use as soon as the coating cools. The process is cheap and absolutely effective. Write for prices and particulars. We want an agent in every county.
THE WOOD AND IRON PRESERVING CO.,
319-320 Douglas Bldg., Los Angeles, California.

ALFALFA FARM FOR SALE—

40 acres, (18 in alfalfa) well improved, three flowing wells with good pumping plant, almost new, with 500 feet of 6-inch irrigating pipe. Windmill with 2,500 gal. tank. Large barn, four-room house, all fenced and cross-fenced. Located one mile west of Hynes, 12 miles from Los Angeles. Price, $5,000.
J. W. GAINES, Hynes, Cal.

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Ollas, Vases and artistic Pottery, and Pottery for Floral Plants. Fancy Hanging Baskets and Wall Baskets, Etc., Rose Propagating pots a specialty.

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We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand
Roses, Palms, Ferns, Vines, Ornamental Shrubs, Etc.
Write for Catalogue Free
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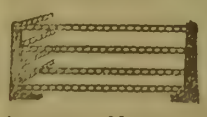
Truss and Cable Fence



Is the most substantial fence known. It is easy to put up, and easy to keep up. No expensive special tools are required, and ordinary farm help can do as good a job as the highest skilled mechanic.
It is put up in small compact reels, weighing about 100 pounds each, and is very easily handled on the field.
Write for descriptive circular.
Pacific Hardware & Steel Co.
401 Mission Street, San Francisco.

Coast News and Notes

CONTINUED

From advertising, Fresno county has attracted inquiries about the fig industry and sales of land to be devoted to fig growing are being made. Fig raising has not been heretofore carried on extensively in Central California.

Losson Ross, the orchardist of Forestville, recently sold the apples from one tree for $25.00. The fruit is of the Ben Davis variety. Mr. Ross' orchard contains 108 trees to the acre. The trees are twenty feet distant from each other.

In 1901 the world produced 209,000,000 pounds of hops and in 1903 153,000,000 pounds. The crop in the United States dropped from 41,800,000 pounds in 1901, to 28,600,000 in 1902. It is estimated that this year the crop will be still less.

On the 6th inst. the steamer Nevadan, from Honolulu, arrived at San Francisco with many thousand sacks of sugar and 1000 bunches of bananas. The Martha Davis, from Hilo, on the same date, arrived with 9600 sacks of sugar.

The dried fruit market in Alameda county, and contiguous counties, is dull. Buyers are wary and growers are in no haste to sell. Apricots at this writing are quoted at from 8 to 9 cents; almonds 9 to 10 cents and prunes are sold on a 2 to 2½ basis.

The United States annually sends thousands of dollars to Sweden for pottery made from the Pompeiian clay. Now A. W. Robertson has discovered the same kind of clay near Santa Cruz, and is successfully manufacturing vessels from it. This clay is also found in Amador and other counties.

Lumber men recently made an estimate of the annual cut of timber in the three Pacific states as follows: California supplies 860,000,000 feet, Oregon 740,000,000 and Washington 2,300,000,000. At this rate it is calculated that the forests of the Pacific coast will be exhausted in forty years.

The conditions of the anthracite coal mines are very different now from that of last year. Then there was a great strike, and the supply on hand was low. Now there is so much on hand that 60,000 men are working on half time. There will be no coal famine next winter.

At a recent meeting of the farmers' club, held at San Jose, it was stated that several growers had sold their prunes on a three cent basis. The general sentiment expressed at the convention was to the effect that the action of the farmers' club had so stiffened prices that several thousand dollars will be added to this year's profits of the growers of the valley.

It may interest foreign readers of the Cultivator to know that already more than 8000 car loads of green fruit have gone east from this state this season. Next winter about thirty thousand car loads of oranges and lemons will go, and in the fall and winter many thousand car loads of dried, evaporated and canned fruits will go east. California receives double the money for fruits than is dug out of the mines.

Latest advices from Washington are to the effect that the prune crop is light, owing to heavy rains. All other fruits were good, and were practically free from pests. One Yakima grower sold peaches to the value of $1200 from one acre. That fruit is bringing 2 cents per pound. W. A. Lafolette sold 40,000 boxes of peaches. The apple crop of the state is immense.

At a state convention of the California Grange, held on the 9th instant at San Jose, a committee was appointed to prepare a bill to be introduced in the legislature providing that all state taxes shall be derived from the income of corporations, similar to the Wisconsin law. The parcel post system was also endorsed, which California senators and members of congress will be urged to favor.

Late rains have damaged heavily the oats in shock in Washington.

A Luther Burbank exhibit is to be established at the rooms of the State Board of Trade in San Francisco.

Late storms in Mexico have wrought enormous damage to crops. The cotton crop alone was damaged over half a million dollars.

From the vicinity of Red Bluff there will be shipped this year wool valued at $150,000. At this date 851,000 pounds have been sold at an average price of 11 cents per pound.

Work on the Granger-Jackson dairy at Decoto is progressing. The milk of one hundred and fifty cows will be used by December 1.

The Germans have been experimenting by crossing the horse and Zebra. They say the result is a better work animal than the mule.

James T. Richie of Sonoma county, has applied for a patent for a remedy for foot rot in sheep. He says this remedy has proved efficient in Scotland for many generations.

During the past week the price of hay advanced in San Francisco $1.00 per ton. Fancy wheat hay is now quoted at $15.50 and $16.00. Oat hay at $14 and $14.50.

Mr. Murray, of Sonoma, is advocating co-operation among poultry men. He says he saw Petaluma eggs selling in San Francisco at 39 cents when the same eggs had just brought the Petaluma poultryman but 33 cents.

The Bodega Creamery, of Sonoma county, reports that during the past year they manufactured 146,527 pounds of butter and made a profit of $846.33 on hogs. The property is valued at $3800; cash on hand $2625.48; liabilities $1114.62; surplus $5310.86.

Ten to fifteen thousand sheep have been driven by their owners over the Sierra range into Crane valley on the forest reserves. Farmers in the vicinity have seized them, and under instructions from Forest Superintendent C. S. Newhall, are scattering them in Mariposa county.

A few days ago quite a delegation, members of the Sonoma County Poultry Association, met members of the Petaluma poultrymen in a conference meeting at the latter place, and urged upon the Petalumans the necessity of the co-operation of all poultrymen in the county. Other meetings will be held. The indications are that a general co-operation will be entered into.

A. L. King, of San Bernardino county, claims that his orange crop has been seriously damaged on account of fumigation for insect pests by the Horticultural Commission. Fred Rabe has made a demand on the county for damages for half his orange crop for the same reason. The county attorney has decided that the county cannot legally be held responsible for any damage to orchards created by the Horticultural Commission.

A large mass meeting was held at Sebastopol last week to consider how the great influx of Chinese and Japanese into that locality could be stopped. They are crowding out white laborers.

The Sonoma County Poultry Association is making a campaign of the entire county inducing poultry raisers to join the co-operative association. The poultry men of Cotati have joined the society.

On November 1 the freight rates on wheat and flour to the Orient are to be raised. The present rate on flour from San Francisco to Oriental ports is $3.00 per ton. It will be raised to $5.00. A similar raise will be made at British Columbia and Puget Sound ports. Wheat, which has stood at $4.00 for several years, will be raised to $5.00.

It is asserted that the California fruit growers have been subjected to the grossest frauds, perpetrated by eastern auction houses and commission men and fruit dealers in Europe. Wm. H. Mills has, therefore, introduced a resolution in the State Board of Trade, instructing the manager to inquire into the matter carefully, and report the facts to the end that steps may be taken to abate the alleged wrong.

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

ABORTION.

Editor Cultivator: I have a fine Jersey heifer about 27 months old; had her in pasture all of this year; she dropped her calf (first one) prematurely about a week ago; I brought her home, thinking perhaps she would come to milk, but has not. I have read and been told that an occurrence of this kind with a heifer is very likely to recur. I would like your advice. Would it be wise to breed her again and wait for perhaps another whole year, or had she better be fattened and sold for meat? Kindly reply through California Cultivator and oblige.—Wm. E. Toeipl, Upland, Cal.

If you have reason to believe that she dropped her calf prematurely from contagious abortion it would probably be as well to fatten her under the circumstances, but if it was due to some accident she would very likely come all right next time.

* * *

FATTENING COWS.

Editor Cultivator: What is the best ration to feed a cow in order to fatten her for beef, 11 years old and giving milk, but I am drying her up fast as possible. In fair condition now.—W. W. Foster, Bloomington, October 12.

The most economical plan to fatten a cow 11 years old would be to give her all she will eat of the best cheap food at hand. It certainly would not pay to give her much expensive food.

* * *

MUSTY HAY.

Editor Cultivator: Will you kindly state in your valuable paper whether or not barley hay that is slightly musty can be cured so as not to be injurious to horses—causing looseness of the bowels. The hay is not so musty but that the horses eat it readily.—S. C. F., Santa Clara.

All musty hay is caused by vegetable parasites growing on it during the life of the plant, or after it has been cut. Those growing on hay before it is cut are bunt, rust, smut and ergot. The vegetable parasites that grow on hay after it has been cut are represented by various fungi, such as mucous, penicillium and asper gillus. These are known as moulds and give off spores which cause great irritation to the respiratory mucous membrane of animals. If the hay was well shaken and slightly dampened it would improve it some.

Sir Thomas Lipton has purchased 1000 acres of choice fruit and vegetable land in Southern Georgia. He is working in concert with other European capitalists, who are preparing to buy great tracts of land in the South, stock them with cattle, and raise grain and vegetables for the London market.

HORSES FOR SALE.

Some very fine driving horses and brood mares. I am closing out my stock.
MRS. L. J. H. HASTINGS
A. A. CLEVELAND, MANAGER
Near West Gate of Race Track, Los Angeles

MILK ROUTE FOR SALE

Owing to my wife's failing health I am compelled to offer for sale my
Milk Route, 10½ Acre Dairy Ranch and 33 Head Well-Bred Dairy Stock
Here is an opportunity for some energetic man to step into a well-established business that will comfortably support him from the moment he takes hold of it. Escondido is one of Southern California's most thrifty, healthful and charmingly located settlements, and this is its only milk route. My books are open to the inspection of bona fide prospective purchasers.
C. A. STAMMER,
P.O. Box 1, Escondido, San Diego Co., Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

LAW RELATIVE TO BUTTER AND CHEESE.

A correspondent from San Luis Obispo writes the Cultivator asking what the provisions and penalties of the law in California in reference to butter and cheese are, and also if the Cultivator will not publish the law as it stands today. The Act may be obtained by writing the State Dairy Bureau at Sacramento. It is too long to print here, but is of interest at this time when so many kinds of preservatives are used to keep cream sweet and to give it color, at least to give butter color, and when so many imitations of butter are on the market. The principal provisions of the Act provide in substance that "No person, by himself or his agents, shall render or manufacture, sell or offer for sale, expose for sale, or have in his possession, with intent to sell, or use, or serve to patrons, guests, boarders, hotels, restaurants or private persons, any article made wholly, or in part out of any fat, oil, or oleaginous substance not produced directly, and at the time of manufacture, from unadulterated milk or cream. No imitation of butter or cheese made from pure cream is permitted.

No proprietor of any hotel, restaurant or bakery is allowed to substitute pure butter or cheese with butterine, or any other compound, without due notice of such substitution to guests who may be served.

The penalty for violation of the Act is, upon conviction, for first offense, a fine of not less than $50 nor more than $150 or imprisonment for more than 30 days, and for each subsequent offense a fine of not less than $150 nor more than $300 or imprisonment not more than six months.

From the above provisions of the law it will be seen that it is a dangerous business to substitute any imitation of butter or cheese without strictly complying with the law relating to notice thereof. The law is good. Its provisions are wholesome, and its penalty for violation none too severe.

NUMBER OF PURE BRED DAIRY CATTLE OF THE UNITED STATES.

The dairy division of the United States Department of Agriculture gives the following estimate of the number of pure bred cattle living in 1903, the total number of such cattle registered, and the average value of those living:

NUMBER AND VALUE OF DAIRY CATTLE.

Breed	No. registered.	Estimated No. living.	Av. Val. p. head.
Ayrshire	25,541	8,500	$100
Brown Swiss	3,258	1,800	75
Devon	20,717	9,000	75
Dutch Belted	1,524	600	200
Guernsey	24,337	15,000	140
Holstein Fries ..	115,009	75,000	130
Jersey	237,680	125,000	100
Polled Durham ..	6,077	5,000	80
Polled Jersey	286	250	100
Red Polled	30,330	25,000	150
*Shorthorn	504,839	420,000	170

*Number and average value refer chiefly to beef stock.

After an extended trip through the state G. M. McKinney, general information agent of the Southern Pacific Company, estimates that there are 2,000,000 acres available for colonization in California.

DAIRYMEN SHOULD REMEMBER—

1. It should be remembered that the whole matter of good dairying and proper care of cows is placed in a nutshell when it is realized that you have to deal with a mother when you handle a cow, and with a baby when you handle a calf.

2. That when one is considering the question of raising the standard of the dairy herd, it is essential that he make the characteristics of the dairy breed a special study. The question of what breed to select to use for a cross should have careful study. No one can answer for another.

3. That no sensible dairyman will ever sit down to cows with teats and udders completely covered with manure and begin at once to wet the teats with the milk, while the filthy drippings go directly into the pail. This is not producing pure milk.

4. That the milk should not be put at once after milking into closely covered cans, because by so doing odors are retained in it.

5. That milk pails, cans, churns and every utensil used in the dairy must be kept most carefully clean, solely to keep out bacteria.

6. That it is but little more trouble to take care of and milk a cow giving 7000 pounds of milk a year than one giving 2000 pounds. The one who milks the 7000-pound cow will reap his reward, for the profit is three fold.

7. That no heifer should be milked before calving. Its tendency is to destroy. It is rank folly, all reports to the contrary notwithstanding. No udder was ever saved by milking before calving. The unnatural operation tends to create more inflammation.—North Dakota Farmer.

STATE UNIVERSITY DAIRY COWS

The annual short course in agriculture, horticulture, and dairying which the University of California conducts as an adjunct to its regular work commenced last week. The attendance is not yet all enrolled, but it is already demonstrated that this year's dairy school will exceed in numbers that of last year.

The schedule of exercises is announced as follows: Butter-making, E. H. Zimmerman; cheese-making, E. H. Hageman; dairy laboratory, Professor E. W. Major; economic entomology, Professor C. W. Woodworth; plant propagation, Professor A. V. Stubenrauch; sugar beet culture, Professor G. W. Shaw; California horticulture, Professor E. J. Wickson; scale insects, Professor Woodworth and H. J. Quayle; dairy bacteriology, Professor A. R. Ward; veterinary science, Professor Ward; grasses and forage plants, Professor Wickson; breeds and breeding, Professor Major; steam engine, C. C. Thomas; dairy chemistry, Professor M. E. Jaffa; milk and its products, Professor Major; feeding farm animals, Professors Jaffa and Major; farmers' business methods, C. A. Colmore; human foods, Professor Jaffa; insecticides, Professor Colby; physics and chemistry of soils, Professor E. W. Hilgard and Professor R. Loughridge; fertilizers, Professor Loughridge.

PANICULARIA.

Editor California Cultivator:-

I received a postal card stating that the cultivation of "Panicularia" would yield 95 tons of fodder.

It was stated that G W Bowser Coonsville, Cal., is cultivating it.

Will you oblige me by letting me know what you know about it.

I should like to know how 95 tons could be raised on one acre. You will oblige me exceedingly if you will answer the above. I ask you in the interest of a friend of mine. Wm. Meyer, M. D., Cula Vista, Calif.

The enclosed letter from Dr. Meyer in regard to a species of Panicularia said to yield 95 tons of fodder to the acre, has been handed to me with request that I drop you a note concerning this grass.

It is impossible to determine just what grass is meant since the specific name is not given and since there are several species of Panicularia grown for fodder. The one most commonly used in the eastern United States is the Reed Meadow-grass. (P. americana). This is a stout perennial, often becoming three or four feet high, which grows wild along streams and moist meadows in the eastern states. It is much liked by cattle and makes a good pasture grass for wet lands.

A second species is Floating Manna-grass P. (fluitans). It is found in all temperate regions of the world and, like the preceeding species, is a good fodder grass for swampy meadows.

The Fowl Meadow-grass (P. nervata) is a common native perennial which grows plentifully along streams in our own state as well as eastward along the continent but, so far as I am aware, it is not being grown in California to any great extent as a fodder grass, except in natural meadows. For further information and description of these grasses see Agrostology bulletin 14 of the U. S. Department of Agriculture.

The report that this grass yields 95 tons of fodder to the acre, cannot be accepted even by one familiar with the wonderful effect of our California soil and climate. Although the Panicularias produce an abundance of broad leaves and form a dense growth on damp lands, a yield of 95 tons would be something phenomenal.

The conditions existing in California are much too arid to make the introduction of these grasses profitable except in the region along the north-west coast and at few places in the mountains. The Floating Manna-grass and the Fowl Meadow-grass are valuable components of wild pastures in northern California and the latter extends as far south as the San Jacinto Mountains where it grows only along streams and in boggy meadows at considerable altitudes. In fact all the species of Panicularia demands a soil with considerable surface moisture for their perfect development. I do not know that any attempt is being made to extend the range of these species in California.

Trusting that this information may be of interest, I am very truly yours, H. M. Hall.

KEEP GOOD COWS.

Too many farmers are keeping cows in their herds at an actual loss. We have preached the doctrine of better dairy cows until our readers may think we have gotten the subject threadbare, but there is merit in saying the same thing over and over again, if it is a needed reform that is being advocated, and we know of no better theme to discuss with many of our readers from time to time than that of weeding out the unprofitable cows of the herd and substituting those that will produce fifty cents a bushel for the grain fed them against twenty-five cents per bushel for the grain fed to the poor ones. Every farmer should have a profitable standard of production for his herd of dairy cows, and when he finds that any one of his herd does not come up to the standard, she must be disposed of at once. As to the proper standard to set, the farmer must determine that himself. Such a standard will depend on the cost of feed and in the value of the product in his locality. By a judicious use of the Babcock tester and scales, every cow in the dairy herd can be placed on record, thus making no excuse for the farmer for keeping poor cows.—Farmers' Tribune.

Removal Notice
OF
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HOW TO CARE FOR THE BULL.

The dairymen and farmers who handle any considerable number of cows find a bull a useful animal to own, says Wayne Dinsmore in Kimball's Dairy Farmer.

Some are content with anything that has four legs and the necessary parts of a bull. But a man who expects to make money finds it profitable to keep one with other desirable qualifications.

To the man who prefers animals of the first class mentioned, what we have to say will scarcely be of interest, for such animals need neither food, care, nor management.

To those who have good bulls the following suggestions may be of interest:

The breeding bull is kept to produce calves.

His ability to beget calves like himself depends upon his vigor and also upon the intensity of his breeding.

The latter is a more complicated question than we care to discuss here, but vigor depends almost wholly upon care, feed, and management.

Keep your bull in the best physical strength.

If he is a beef sire see that he is in good, meaty condition.

That grand old veteran, Thomas Wilhoit, condensed a world of meaning in a single sentence when he said: "Thick fleshed cattle breed thick fleshed cattle."

If he is a strictly dairy bred bull, the comment as to keeping him fleshy does not apply, for he is not built that way.

The man who allows his bull to run with the cows is adopting the easiest method, but he is foolish. More than that, he is careless of human life.

One service is as good as a dozen in getting a cow with calf, and it is just as much a strain on the physical vigor of the bull to serve one cow a dozen times as to get a dozen separate cows with calf.

It takes more feed to keep a bull in condition when running with the cows. He is far more apt to become impotent. His growth is checked and accidents involving the life of persons occur only too often under such circumstances.

Build a strong, roomy stall, in the south side of the barn, if possible.

Just outside construct a strong paddock of moderate size, say 15 feet square.

See that the stall and paddock are well drained. Then have a summer pasture of eight or ten acres enclosed with a woven wire fence, with barb wire at the top and more barb wire at the bottom.

When you build a fence be sure you have posts rather than kindling wood. Set them about one-half rod apart.

In such a pasture the bull may be turned at night, though no cows should be left in the adjoining field. Calves or steers may do no harm, but it is best not to take too great chances.

With such a stall, a paddock where he may sun himself, and exercise on pasture every night the bull should and will remain content and healthy so far as it is possible to make him.

Feed oats, shorts and bran, with some clover hay, green cane and corn fodder. Oats and bran make an excellent ration. The amount fed, of course, must be regulated by age, size and condition.

So far as the handling is concerned a few simple rules combined with common sense will suffice.

Ring the bull and teach him to lead while young.

Never tease him nor fool with his head.

Never allow him to push or bunt at you in play.

Teach him to obey you when you speak, but handle him sufficiently, by brushing him clean, to accustom him to your presence in the stall.

Above all, keep the stall clean, well bedded and allow him exercise in the pasture.

PLANT HOGS.

"I have a hog story that beats them all," said a Kansas feeder yesterday. "Last season one of my sows had a litter of nine pigs. One of them died, I gave two away, slaughtered one and sold the other five for over $100 profit."—St. Joseph Stock Yards Journal.

WHEN HEIFERS SHOULD BE BRED.

Under the above head Hoard's Dairyman says the following:

With those who value size principally in their cows the theory and practice is not to breed until the heifer is 20 or 24 months old. There is no doubt that the heifer will make a larger growth under ordinary treatment if bred at such age, but there is danger in this method, in our estimation, of promoting a beefy tendency in the heifer. With dairy cattle the main purpose is to promote, as much as possible, a pre-disposition to milk giving. For this purpose we breed for milk, and in the care and handling we give the animal we endeavor to promote the milk giving functions all we can, consistent with health and constitution. It has been noticed by close observers that if heifers, or cows even, become too fleshy they are apt to fail in breeding, or if they do conceive and have a calf there occurs sometimes a "set back" to their full and free milking function. "Fat and fertility are at the antipodes of each other," says the author of "The Transmission of Life."

When heifers are kept until they are 2 years of age before being bred they are quite apt to contract a fleshy habit or tendency. But if the process of gestation is going on with them at the same time it counteracts the flesh-making tendency and establishes the milking temperament within them. It is true that the bad results of late breeding in checking the milking tendency are not near as apparent in pure bred cattle as they are in dual purpose or beef cattle. The reason for this is that the "dairy temperament" is more thoroughly established in them by long heredity in that direction, and so holds them more steadily to the central porpose for which they are bred. But there is a constant tendency to "reversion" in the very best of families.

So, if we keep alive and strong the dairy temperament, we should start the heifer in that road as soon as she is 15 months of age. What we are after in the matter of breding dairy cattle as to constantly establish and enlarge the dairy individuality of our animals. We like to feel that all our methods of breeding, feeding, and handling are doing their best to make each heifer, if possible, a little better cow than the mother. That is the road of dairy progress. Branching off from it and leading away from the great central purpose are other paths, such as "dual purpose," the "color craze," and an economic demand for "size," etc.

A writer in the Jersey Bulletin of July 29, speaking on this question, says:

"We like them (the heifers) to drop their calves at 2 years of age. Would prefer them to freshen at 20 months than to go over 2 years. Heifers bred ever so early with us give from 28 to 32 pounds per day, and improve generally until the third calf. To be sure, they will not get their full growth until they are 4 or 5 years old, and possibly may never be quite so large as if they dropped the first calf at 3 years, but most of us know that size does not stand for everything in a Jersey cow."

Sufficient size, say 900 or 100 pounds, can be attained more surely by seeing to it that the heifer is kept growing and thrifty from the time she is born.

One of the finest feeds for conditioning and promoting growth in heifers and young cows is alfalfa. The first twelve months of the calf tells the story of its subsequent growth almost invariably. Fresh skim milk, separated on the farm, fed morning and night, with a spoonful of blood meal and a pint of oats, followed with what good alfalfa it will eat, and dry, clean quarters, will make a heifer fully large enough to breed at 15 to 17 months of age, and we believe she will make all the better cow for being started in the way of maternity at that age.

CARE OF FALL PIGS.

A great many farmers of our acquaintance says the Farmers' Review, seem to be of the opinion that the best way to care for fall pigs is not to have any. They are opposed to fall-born litters on general principles and it is a fact that a good deal of labor and care is required to successfully carry fall pigs through a long severe winter. Yet it can be done and with profit. It depends a good deal on the time the fall pigs arrive. It is evident that if they are born in August or September they will get some warm weather in which to make a start and this is most important. It is different with the pigs that come later when warm weather is gone and cold days prevail. These are the pigs that cause the most trouble and we are of the opinion that the earlier born pigs can be carried through the winter in good shape at a profit and without much trouble if the owner is a man who likes to tend young animals and can provide proper shelter.

To get a good start is one of the main objects, for without it the litters will remain weak and sickly and more readily succumb to inclement weather. When the pigs arrive the sow should not be fed lots of new corn as is commonly done, but for the first week should be lightly fed upon bran and middlings in the form of slop, and after that time may have an increase of food of this character, but should have very little corn if the pigs are to do well. While the pigs should be born in a comfortable pen and stay there until they are able to get about well the more open exercise they get after that the better, so long as the weather is not wet. When cold weather comes on shelter must again be provided and it is important that the pigs should not become chilled in going from their bed to their meals. This is a common cause of loss, so that an even temperature should be maintained and at the same time good ventilation be provided.

Sunlight is the best possible warmer and invigorator for young pigs during the winter months, but warmth is not on any account to be obtained by allowing the little pigs to sleep with adult hogs. Some claim that the adult hogs sap the strength of the young pigs, as is said to be the case when children sleep with adults, but there is little to prove the truth of this assertion. The real cause of lack of thrift among young pigs so treated is that get too little fresh air, become too warm, and so chill and become sick or puny when exposed to the cold air in getting their meals with the old hogs. The latter also are apt to take a hog's share of the viands so that the youngsters suffer. It is best to keep the fall litters by themselves after weaning time and to see that sunlight enfers their sleeping quarters as much as possible. Also that they have plenty of nitrogenous food rather than an abundance of corn, which is unsuitable at first and the common cause of indigestion and all of the kindred ills brought upon young pigs by the owner who does not understand proper methods of feeding and management.

After the pigs are three months old they may have grain in moderate quantities. By four months old the pigs should weigh at least 100 pounds and be in thrifty, growing condition rather than fat. As to exercise in winter there is much difference of opinion, but the more they get the better, in our opinion, so long as they are kept from wet and storms. After the pigs get a good start and are doing well they will be able to run out of doors on fine days and derive benefit rather than injury, but they must not be allowed to remain out of doors in wet weather. It is wet more than anything, perhaps, that gives rise to trouble in pigs. They can not stand it, and this also applies to damp sleeping quarters. Their bed should be dry and clean at all times if they are to do well, and so long as they are not overfed, not given too much corn, and always come squealing to the trough there will be little difficulty in making satisfactory gains without a vast amount of trouble and labor. Fall pig raising is all right if the man in charge knows his business.

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MOST PROFIT IN THE DRAFT HORSE

Secretary James Wilson of the U. S. Department of Agriculture, recently contributed a valuable article to the horse world on "The Farmers Horse." In discussing the profits to be obtained in breeding horses the Secretary points out that the most profit is in raising the draft horse. He says:

Under existing conditions there are at least four distinct classes of horses which most farmers can profitably produce. The first and most important is the heavy draft horse, next the carriage or coach horse, the roadster horse and the saddle horse. There is a market for other classes of horses at the present time, but none of them command very high prices, and the most of them are the misfits which are bound to appear from time to time in the effort to produce horses of the four classes mentioned by breeding indiscriminately which gives us horses of poor quality undersized draft horses, and are the result of using a draft stallion on mares weighing from 1,200 to 1,500 pounds.

The heavy draft horse is one of the most profitable classes of horses that the farmer can breed. The draft colt can be bred with less risk and liability to accident than those of the lighter classes. This is partially due to the fact that the draft-bred colt is usually a quieter animal than those of the lighter classes, and thus less liable to injure itself through spirited exericse or playfulness. Furthermore, small bunches and blemishes which detract so seriously for the value of the harness or the saddle horse are not considered to be so objectionable in the draft horse. The man who educates him usually begins when the colt is two years old, and his education can be completed on the farm; .thus the farmer who breeds him can secure his real market value. In the case of the coach or the saddle horse the middleman who educates him usually reaps a much greater profit than the man who produces him. This is not true of the draft horse.

A draft horse without good feet is worthless on any market, hence good feet are the very first essential of a draft horse, or in fact, any class of horse. The hoofs should be large, round and wide at the heel . They should have width,but not be too deep or shallow. The horn should be of good quality, as indicated by its denseness. The wall must be strong and not inclined to be flat. The legs should be well set under the body and possess plenty of substance, as indicated by the quality and amount of bone and the development of the muscles on the forearms and gaskins. Weight is a very essential point. A draft horse should weigh from 1,800 upwards, the more the better, provided it is combined with quality and good feet and legs. The body shourd be deep, wide and strongly coupled, as indicated by shortness of back and the musceling of the loin. Good action is essential, as indicated by the length of stride, quickness of step and straight away movements.

Secretary Wilson states that next in importance to the draft horses are the carriage horses, or coach horses. Following them comes the gentleman's driving horse, or roadster, and last is placed the saddle horse.—Country Gentleman.

GRAINS FOR HORSES.

Barley, wheat and rye are all dangerous feeds for the horse, as they are liable to cause indigestion, colic, etc.

When these grains are fed they should be boiled and mixed with cut hay, roots, etc.

In this shape they are far less dangerous and are adapted to fitting horses for sale or show.

When fed dry they should be ground and fed with oats and bran and should not form over one-fourth of the mess at any one meal, and should not be fed more than once daily.—Farm Journal.

Home building, small farms and diversified farming are the hope of California agriculture. The dairy industry accomplishes these results to a greater degree than almost any other one thing a farmer can turn his atention to.—Chino Champion.

ANGORAS IN CALIFORNIA.

The Angora goat is coming into California to stay. In the northern and range section of the state the advent of the Angora promises to add a new and valuable stock industry. Writing of the Angora and its value, H. B. Fullerton, who has a large ranch of goats in Michigan, writes:

"A young lawyer friend of mine recently aptly termed the Angoras "the redeemers of the slashings." My attention was first called to them in this connection by an old college friend in the Department of Agriculture at Washington, D. C., just before the Bureau of Animal Industry issued their first bulletin on the Angora. He remarked that there ought to be money in clearing the old brush-grown lands of any country with them. The thought took possession of me, and I read eagerly all the literature I could obtain on the subject. I finally purchased a carload of Angoras—the first lot ever brought to Michigan. They have more than met my expectations as brush destroyers, and have proved money makers by their mohair and increase.

As brush destroyers, my Angoras have done noble work, and attracted much attention, many coming from a distance to see their work. They eat all brush and weeds growing in this vicinity excepting the mullen. They seen to prefer the maple, oak, sumach and blackberry. The sweet fern or brake, which grows so dense as to kill out all grass in many localities, they leave until the last, but then kill it effectually. From two to three goats per acre will do the work, depending on the brush growth and the season. There are many thousands of acres of fine farming and grazing lands in the choppings of northern Michigan for them to reclaim, and now that they are being introduced in considerable numbers they may justly be called, "The redeemers of the slashings."

What was done in Michigan is being started in California. The cactus fields, the low brush lands of Northern California may all be cleaned off by the Angora goat, and when this is done the mohair and the increase will make a fine profit on the investment.

The bacon hog, says the National Provisioner, has captured the public taste and left the heavy fat hog in the lurch. The packing houses demand a good bacon hog and pays well for it. The bacon type of hog has often been miscontrued, and in many cases ridiculed, but this is done more because of lack of knowledge of the real bacon type than anything else. This type does not demand a thin hog, as is often thought, but a hog with thick covering of firm flesh. It is, of course, highly important that this flesh be lean, and this will follow if the true bacon breeds are raised. The bacon hog must possess extreme length and depth. He must be smooth and evenly fleshed from the shoulders to the hips, presenting a neat and trim appearance. While to a large number of people these hogs are strangers, it would be well for every farmer to watch their progress,as they are becoming more numerous every year.

Prof. C. D. Smith, after five years' investigation of the milk question, has come to the conclusion: First, a cow yields as rich milk when a heifer as when she is a mature cow. Second, the milk is as rich the first month as it is later in the period of lactation, except during the last few weeks when she is drying up.

"Say do you known anything that will cause more real, downright discomfort than a grain of sand, or a cinder, in the eye?" Well, a drop of castor oil put in the eye will stop the pain and watering. Just try it once." Exchange.

Experts from the Agricultural Department have for some time been making exepriments in Fresno county to reclaim the soil from alkali. A drainage district forty miles square is being formed, improvements to cost $260,000. The alkali salts were brought to the surface by copious irrigation. The tract experimented on was underlaid with tiles and then flooded so as to wash the alkali through the soil and thus drain it off. —Pajaronian.

NEVER CONFUSE THE COLT.

Whatever is done with horses to the best advantage must be done coolly, deliberately, confidingly and with kindness for the best results. Whenever the horse becomes confused and excited he semingly "loses his head," which is very liable to lead to dangerous results, but just as long as he and his driver are on peaceable terms and understand each other perfectly there is comparatively little danger, even with the highest order of nervous development. As long as the horse understands that he is not to be hurt, and that directions will come in an intelligent manner, he can be relied on, but just as soon as he loses confidence in his driver he seems to take the responsibility of the situation upon himself and then destruction too generally follows. The theory practiced by the majority of the would be horsemen is to force the animal to do their bidding, whether the horse understands what it is or not. But neither men nor horses can execute any order well without understanding just how to perform the duty and this is acquired by cool, deliberate, careful and kind explanation, without fear or punishment. Well-behaved horses are the results of kind, careful handling, but dangerous horses are made so by fright and fight by those who have undertaken their training. Many of our very best and safest horses, under similar treatment, can be made dangerous animals in an incredibly short time in the hands of an abusive, inhuman, cruel horse-breaking crank.—Horse World.

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

TO EXTERMINATE THE CHICKEN MITE.

"I hate to go and gather the eggs," said a ten year old girl to me. "Why?" I exclaimed in surprise. "'Cause, I get covered with mites." Poor child! Their barn was swarming, henneries, brooders, full of lice and mites, for her good father's weary hands and tired limbs were folded in the sleep that knows no ending, and within a month the whole place was infested and the hens stopped laying. This shows what the mites will do. They are the most expensive enemy the poultrykeeper has. The Iowa State Experiment Station issued a bulletin in August giving full directions for exterminating the mites and I feel we cannot serve our readers better than by reproducing the article.

One of the most formidable enemies of chickens is the chicken mite, scientifically called Dermanyssus gallinae Redi. My observations have demonstrated that chickens infested with mites are exceedingly unprofitable. The cost of keeping them is increased and the income from them is very much reduced. Indeed, when very badly infested they are totally incapacitated for performing work.

The hens will cease laying. The ovaries undergo atrophy and on autopsy will be found shrunken and in a condition unsuitable for work. In several flocks on which I made observation I found that egg production was greatly reduced or altogether prevented during the spring and summer when, under normal conditions it would have been at its height.

Hatching hens will often either die on the nest as a result of the mite infestation or will leave their eggs, literally driven away by the vast hordes of mites which accumulate upon them. In case of three hens which thus died upon the nest in one flock of sixteen hens I could find no tissue change on post mortem examination which would account for death. There was, however, an anemia, or impoverished condition of the blood, such as would be produced by the sucking of the blood by mites.

Another very important feature of the evil effects of mites is the injury they do to newborn chicks. If the hen survives the ordeal to which she is subjected while hatching, the young chicks are attacked by the mites in great swarms as soon as they leave the protection of the shell, and, as a rule, the majority of them will succumb. I have known the loss of new born chicks from this cause to reach ninety per cent.

Chickens, both old and young, will become reduced in flesh and lose the energy for hunting and scratching which is so necessary for their welfare. The feathers will become roughened and drop out, the head will become pale and the chicken in every way present an unthrifty and unhealthy appearance. Broilers which are being prepared for market will not thrive well and will turn out in the end to be unprofitable, in fact a loss to the owner. In addition to the sucking of blood the mites further reduce the vitality of the fowls by biting them and disturbing their rest at night. They require more food and are at the same time incapable of converting it into tissue and energy as would be done by a healthy fowl.

* * *

DESCRIPTION OF THE MITE.

The chicken mite is commonly considered a form of insect life, although it is not, properly speaking, an insect. It is sometimes called the chicken tick or poultry tick. It would probably be better to apply the term tick to this parasite and reserve the word mite for the true itch mite of chickens, the Sarcoptes mutans Robin and Lanquetin. The mite has an average length of one-twenty-fifth of an inch, and its width is about four-fifths of its length. It has eight legs, by menas of which it can move very rapildy from place to place. In color it is light gray with small dark spots showing through the skin. About one in fifty or one hundred shows a distinctly red color, varying from a light to a dark red. This red color is due to engorgement with blood. The common white louse of the hen, Menopon pallidum Nitsch, is longer than the mite and of a yellowish white color.

The mites are of peculiar and stealthy habits of life, rather unlike that which one naturally expects from a parasite. Indeed, they are only semi-parasitic, and, as a rule, only remain upon a fowl long enough to secure a meal. (They are very active in their movements and seem to be ever on the lookout for a victim. On account of their vigorous and vicious habits they may be styled the wolves of the insect parasites of fowls. The mites hide in crevices and under objects in the hen house during the daytime while the chickens are outside and lie in wait for their return. They lay their eggs and the young are hatched in these hiding places. A barrel affords an excellent hiding and breeding place as the mites lodge between the staves and under the hoops.

In the nests they are to be found under the straw or other nesting material. It is a noteworthy fact that a place which shows only a few mites on the surface may contain vast numbers in the crevices or under objects. Often they become so plentiful that they overflow the hiding places and appear in hordes on the exposed surfaces. I have observed them so thickly settled as to cover the upper surface of an inch board and down the sides for a distance of two inches throughout four feet of its length and at the same time in almost as great numbers in neighboring places. On one occasion when the upper border of the next box was covered by mites as above described a hen went upon the nest to lay. Within ten minutes I noticed that at least three-fourths of the mites had left their position on the box. On lifting off the hen and examining her I found her to be swarming with mites.

* * *

INTRODUCTION OF MITES INTO A FLOCK.

In one case I was able to determine with certainty that the mites were introduced into a flock by a rooster that had been bought in a neighboring flock which proved on examination to be badly infested with mites. There is no doubt that mites may be carried from one premises to another upon all sorts of intermediate bearers.

To provide against infection of a flock in this manner any new fowls which are brought in from infected premises should be quarantined and treated by dusting with pyrethrum powder until all the mites have been destroyed.

(To be continued.)

ANSWERS TO QUESTIONS.

Editor Cultivator: Will you please answer the following questions in the columns of the Cultivator?

1. Which is the best way to ventilate a hennery?
2. Is it a good idea to have the hens' nests connected with the hennery?
3. Is the Brown Leghorn a good layer?—M. E. N., Santa Ana.

1. Bottom ventilation is the best. have the roosts above the opening so there will not be a draft on the hens—I prefer for this climate a house to stand up on four corner posts and have a free circulation of air underneath.
2. No, keep the nests away from the hennery and keep one moth ball as big as a small marble in each of the nests to keep out mites, lice and fleas.
3. The Brown Leghorn is an excellent layer.

Some of my chickens are afflicted with a peculiar trouble I do not understand. Their legs swell up to about three times their natural size and present a pink color. No fowls have yet died from the trouble. What is the disease and what the remedy? —John L. P., Alameda.

It is difficult to diagnose a case without more detailed description. I can only suggest that your fowls have rheumatism. If this is the case they will be lame, with spasmodic jerking of the legs, indisposition to remain standing, and refusal to walk. Treatment.—The buildings where the fowls live should be thoroughly dry, clean, free from draughts. The birds should have a change of ration with plenty of green food (lawn clippings, etc.). Begin treatment with a dose of Epsom salts, 20 to 30 grains (a quarter of a teaspoonful). The following day add half a teaspoonful of baking soda to a quart of drinking water, and give two or three grains of salicylic acid twice a day. Bathe the legs with the following: One cup vinegar, one cup turpentine, one tablespoonful saltpetre; keep in a bottle, shake before using. This is the greatest relief for rheumatism in the human family.

* * *

1. Will you kindly say whether oil meal has any value as an egg producer.
2. I have crossed Plymouth Rocks with White Leghorns, will the pullets make good layers?
3. Will you give prices on White Plymouth Rocks?—G., Claremont.

1. Oil meal is the refuse left of the linseed from which the oil has been extracted. A small quantity can be used, but the hens do not relish it. It helps the moult. I much prefer cotton seed meal, the hens like it better and it is cheaper. It has almost as much protein in it as meat and bone scraps.
2. The pullets of a first cross of Plymouth Rocks and Leghorns will be excellent layers, but their offspring will not be as good. The cockerels of the first cross will develop young and make fine fryers.
3. See my ad. in Cultivator or write me, not forgetting to give your name and address.

* * *

Editor Cultivator: I am a beginner in the chicken business and a new subscriber to your paper. I have bought a place with about fifty hens on it. Please tell me how to feed them. Had I better go in deeper? Some of my hens have looseness of bowels, the discharge is watery and green. What must I do for them?—Miss L., Redlands.

First take the sick away from the others, put them in a hospital by themselves, or better still, as you are a beginner, kill all the sick and bury them deeply, spray the yards and houses with a 5 per cent solution of carbolic acid and water; see that the hens are clear of lice, and keep the houses clean, and for a month put every other day a piece of blue stone as big as a bean in a quart of water for them to drink. On alternate days give one of the liquid roup cures, the Pacific is good, in the water—and one of the good poultry tonics in their mash.

I feed my fowls in the morning grain thrown in their scratching pens in deep straw, at noon green food, either green lawn clippings, or alfalfa, or cabbage, lettuce, beets, melons, pumpkins, and for the last feed about four o'clock as much mash as they will eat. You can put table scraps in the mash, mine is varied frequently, but the foundation is 2 parts bran, 1 part ground barley (or corn), 3 parts clover or alfalfa; to this is added a little salt, charcoal, shell grit, occasionally a little pepper; the mash is mixed every day.

I would not advise you to go in deeper until you have gained some experience.

POULTRY NOTES.

Wheat and oats make one of the best general diets for fowls.

If hens develop the feather pulling habits send them to market at once.

Poultry balance their own rations, if they are given a variety of feeds to select from.

EGGS FOR HATCHING
—FROM—
PETALUMA FAMOUS WHITE LEGHORNS
Price according to quantity and market quotations. Address
The A. R. COULSON CO.,
Petaluma, Cal.

FREE! FREE!
The 1904 Catalogue B
Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
Must Hatch Incubator Co., PETALUMA CAL.

JACOB KREGER
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BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
Eggs and Stock for sale at reasonable prices

INDIAN RUNNER DUCKS
White Leghorns and White Rocks
Eggs $1 a setting; $5 per hundred
Foster's Fowlery Florence, Cal.
One mile south of Los Angeles limits.

FOR SALE
Thoroughbred Buff Plymouth Rocks, Shepherd strain, Ohio.
Thoroughbred Buff Orpington Eggs, $1.00 pe 15.
5 Cyphers Outdoor Brooders.
1 Modern (hot water heat) Brooder Building, 600 chick capacity.
LOUIS S. FLETCHER ANAHEIM, CAL.

TURKS and BASHI-BAZOUKS OUTCLASSED
To successfully wage a
WAR OF EXTERMINATION
against Lice and Mites, you must use modern weapons. Case containing Guns, Powder and Complete Ammunition to
Slaughter Millions
$2 50, Freight Prepaid.
SPEEDY and COMPLETE VICTORY
assured. Send for catalogue.
Geo. H. Croley
POULTRY SUPPLIES
508 Sacramento St., San Francisco

MATURED
Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.

LEE'S EGG MAKER
When fed according to directions will make more eggs than any other known food. Bought by the car load and sold in 25-lb. Pails for $2.00; 2½-lb. packages, 25c.
LEE'S LICE KILLER
"The Only One Imitated."
Henry Albers
315 S. Main St. Los Angeles, Cal.

HANDLING BROODY HENS.

During the summer, hens of large breeds often give a good deal of trouble by their persistence in following the maternal instinct.

Many eggs are broken and spoiled by broody hens crowding into the nests with layers,

The best way, of course, is to let the hens have at least a chance to hatch a brood of chickens, even if taken away from them when hatched.

But the broody hens should be taken and kept off the nests intended for layers anyway.

If broken in the very beginning of their sitting desire, they will soon go to laying again, thus adding them materially to the egg yield instead of diminishing it by breaking or helping to break eggs in the nests.

Our way of handling broody hens is as follows: We have a small yard enclosed by a high poultry wire fence, with a pole for a perch across one corner.

As soon as a broody hen is found on the nest at night she is taken off and taken to this yard.

Should she be light on the wing, and manage to fly over the eight-foot fence, she is taken again as soon as found on the nest and put back after one of her wings has been clipped just enough to prevent her from succeeding in her flight the second time.

Here the broody biddies are kept well supplied with food and fresh water.

Every third day the door is opened in the afternoon or evening and the hens allowed to come out.

Most of them will go to their regular roosts at night.

Those that return to the nest to sit are again taken off and confined in the yard for another three-day period.

This will usually cure them.

We find this by far the easiest way to handle broody hens during the summer and early fall.

It avoids bad temper, bad language, waste of time on the hens' part, and a material increase in the egg yield.—Practical Farmer.

Green food in winter is becoming quite the thing to give our poultry. How about the summer? Are the yards bare of grass? Then dump all the weeds from the garden into the yards. Give green food in summer and gain in the health of your birds as well in the increased egg yield.

It is refreshing to see the changed standpoint that some of the poultry papers are taking in regard to utility poultry. Large average egg yield and plump poultry do prove factors even in the producing of fancy birds.

To produce eggs in winter hens must have warm, comfortable quarters good food and plenty of it. In feeding for winter eggs, hens should have a warm mash in the morning for this nothing gives me better returns, for the money invested, than poor beans boiled two or three hours and mixed with bran. They should not have all the mash they can eat, but should be hungry enough after eating to scratch for grain thrown in litter.

If there is anything known that will start hens to laying it is cooked lean meat, chopped fine, writes P. H. Jacobs. An ounce daily to each hen is sufficient, with half an ounce of chopped, scalded clover and one ounce of bran. Something depends upon the age and condition of the hen, however. In winter corn or wheat may be given on very cold days. It is best to allow soft food but once a day, giving whole grain in a manner to compel the hens to scratch and work. If the hens are fed in the poultry house, which is often the case in the winter time, the grain should be scattered in a litter, so that the hens will have to hunt for it. Exercise is the most important essential, especially in the cold weather, for it is then that the hens require heavier food to keep them warm, and if exercise is not induced the food will be converted into fat instead of eggs. The matter of feeding is one that cannot be understood except by experience. It is a well-known fact that a hen will fatten more readily than a growing pullet, and a laying hen requires more nitrogenous food than one that is not laying. The amount of food given is no evidence of the digestible capacity of the fowl. Some hens eat less food than others, yet digest more. It is these several factors that serve to render it difficult to select a ration for the flock. The individual characteristics of the birds, their conrange, confinement, and even the grit, dition, age, breed, shelter, kind of are matters, that regulate both the quality and the quantity.

A RIVAL OF PLYMOUTH ROCKS

The Plymouth Rock breeds of chickens have always been a thing to tie to, and it takes a very good kind to excel them, but I believe they are not in it with the Rhode Island Reds. The Reds are hardier, better layers, and a better table fowl than the Rocks.

The fact that they are hardier makes them better layers in this climate, where the winters are so long and disagreeable; and in a warmer climate they do not get deseases as easily as other folws, hence they lay the year 'round.

The Rhode Island Reds are a new fowl and, as the name infers, they originated in the little state of Rhode Island. They are a specie of the Buff Plymouth Rocks. In size they are about like the Rocks. The male birds are a chocolate red color with a few black feathers and the females are a shade lighter. They are a smooth, plump fowl; always active and very rarely sick. For a table fowl they cannot be excelled—their flesh is like butter and they have a nice, plump breast.

During the past few years some of the leading poultry raisers have become aware that the Rhode Island Reds are an excellent fowl for profitable poultry raising, and they have grown very popular in a very short time. They are now in demand and bring the highest prices everywhere.

Prior to this time little attention was paid to this breed and they nearly became extinct. After Plymouth Rock craze came on people knew no other, but the wise poultry raiser of today sees that he must get a hardier kind to meet the demands of all climates. Mrs. Cromwell in Successful Farming.

POULTRY YARD PICKINGS.

The poultry raiser and his fowls must have plenty of grit—and that's no josh.

Hens and pullets may lay as well without the attention of a male bird as with it.

Ten cents a pound is about the average for hens in the market for the whole year.

One of the very best rations to feed the young chickens is coarsely ground oatmeal.

Silver-penciled Wyandottes are making a reputation as layers. The Hamburg blood in them is responsible for this, no doubt.

Eggs will absorb flavors almost as readily as milk does. This fact does not seem to be well understood, but should be remembered.

Because the hens begin to fall off in laying at this season do not forget to take good care of them. They are simply taking a brief rest.

Remember that to be a good exhibition bird one must be strong and perfectly shaped. No poorly kept bird ever comes up to these two requirements.

The best breed of fowls on earth will produce only scrub results if neglected, and a scrub flock will more than pay its way if given conscientious, intelligent care.

More and more the general public is coming to realize that there is not so much difference in breeds of fowls as there is in the people who take care of them.—Commercial Poultry.

Poultry Review—Many small chicks and some old hens are troubled with an irritation of the eyes that causes the eye lids to stick together. The cause seems to be dust blowing into the eyes. Some go out all right in the morning, get a crop full and after taking a nap cannot open their eyes again. The only remedy we know of is to oil the eyes of affected chicks and give shelter from the wind. Some blind ones will follow the hen by her voice till worn out. Badly affected chicks should be kept in a coop till they have recovered.

* * *

On any farm there is simply no excuse for not furnishing shade and plenty of water for the poultry in summer.

ROUP AND CHOLERA

Say! Mr. Poultry Raiser? How about your chickens? Are you bothered with Roup and Cholera in your flock? Have you tried everything from "Pink Powder for Pale Poultry" to the magnetic treatment, without success?

PALMERS POULTRY PP POWDERS

Trade Mark

We have what you've been looking for — a guaranteed cure for Roup and Cholera—something that cures in every case if used according to direction. Palmer's Poultry Powders—the only infallable remedy ever offered the public for Roup and Cholera. Manufactured in your own State by the

PALMER POULTRY POWDER CO.,

102 South Spring St. Los Angeles, Cal.

Palmer Poultry Powder Co.,
Los Angeles, Calif.

Gentlemen: One of my neighbors recommended your roup remedy and I used it on my chickens. They are now entirely well, and I can't speak too favorably of it. I tried seven remedies in three months without satisfactory results, but from now on your roup remedy will always find an admirer in me. Respectfully,

MRS. LIDA STANLEY,
143 East 18th Avenue, Los Angeles Calif.

Los Angeles, Calif., Oct. 5, 1903.

This is to certify that I have used Palmer's Poultry Powders for roup and cholera with gratifying results. My chickens had both roup and cholera. My husband brought home a sample of both remedies, which I used, and now have no disease among my chickens. I can't recommend it too highly. It is all it is advertised to be. I would not take ten times its price and be without it.

(Signed) MRS. T. F. MINOT,
942 W. 32nd St., Los Angeles.

Palmer's Poultry Powder Co.,
102 So. Spring St., Los Angeles.

I started in the chicken busines in a small way almost six months ago, and found roup a barrier to my flock until last week, when a friend asked me to try your remedy as it was sold under a guarantee. I followed her advice and today my chickens are in a healthy condition and no trouble whatever. I'm glad to express my gratitude to the manufacturers of the wonderful roup cure and gladly recommend it to others.

J. T. MIKLEMAN,
Anaheim, Calif.

Oct. 4th, 1903.

To all whom this may concern: I hereby certify that I had both roup and cholera among my chickens. Two doses of Palmer's roup remedy cured my chickens of roup and the cholera remedy was equally effective. I don't think Palmer's Poultry Powders has an equal on the market today, and I would not be without it while I keep fowls for three times its price.

(Signed) E. T. RIDGEWAY,
1000 Maple ave.

White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices. **G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.**

Don't believe all we say but just enough to try our Poultry foods.

Emery's Pure Meat Meal Emery's "B. B. & B."

Ask your nearest dealer for them and take no imitations.

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

WHITE PLYMOUTH ROCKS

GIVEN AWAY

"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.

Eggs—13 for $2.00.

INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2.50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.

Mrs. A. Basley

Near Los Angeles, Alma St. Prospect Park, Cal.

100 Per Cent. Hatched.

In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with

PETALUMA INCUBATORS.

This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free. For sale by **Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.**

MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL.

DINUBA, TULARE COUNTY,

Another Rich Section, where the Farmer and Fruit Grower are happy and contented * * * * * * *

It is something of an eye opener even to one who has seen much of this state, to drop into a community of which little has been heard before and find a vast stretch of rich and productive land being brought under cultivation and made the location of many prosperous farmers.

The great San Joaquin valley has always been referred to as the location of vast resources and of wonderful latent possibilities, but its very vastness prevents proper conception of what it can do—is doing—when considered as a whole. But a few days in the delta lands of the San Joaquin, where some of the richest lands in the world is being reclaimed from the tules, or in the grain fields of Stanislaus, Merced or Madera counties, or in the greatest raisin section of the world, about Fresno, or the rich dairy and stock sections of lower Fresno and in Kings and Tulare counties, all give a view of California's future greatness more than an attempt to absorb the whole.

It was a pleasure to the writer, a few weeks since, to visit one of the newer developed sections in the extreme northwestern part of Tulare county. It was Dinuba, thirty miles southeast of Fresno, on the east branch of the Southern Pacific and within three miles of the station of Sultana, on the Santa Fe. But a few years since it was a great grain field or range for stock. Now it is springing up with fruits, alfalfa fields, prosperous-looking homes and a busy town with its banks, newspapers, business houses, and a fine fruit packing house. Within the past four or five years this town has grown to a population of over a thousand. This growth has been induced by the rich surrounding country. One of the most enthusiastic Dinubians is F. H. Wilson, of the Fresno nurseries. Mr. Wilson still keeps the yards at Fresno but the growth of his business compelled larger acreage for the growing of nursery stock. He purchased 320 acres, a strip a half mile wide by a mile long, one end of the farm coming into the town of Dinuba. On this end the home is built, looking down the principal street.

Mr. Wilson took us in the buggy and first we inspected his nurseries and its no slang to say they're simply great. Rooted vines of raisin grapes, wine grapes, table grapes in fields that stretched out till they seemed to almost reach the horizon. There are several blocks of resistant vines, as well as the many others.

In the little cut, the center one on this page, appear one of the blocks of vines, while on the opposite side of the drive is a block of peaches. In the cut below and to the right is the block of fig trees, while to the right of it is the block of apples and pears.

At the left is a vine, only three years old. The clusters of grapes, the Red Emperor, are mammoth and so closely massed on the vine as to look as if nature had been assisted by placing in an extra bunch or two. But those bunches hang just as they grew, excepting that a few leaves were removed to allow a look at the fruit on this one side of the vine. The other picture is of Mr. Wilson's home place.

Regarding the nursery stock which Mr. Wilson has grown it may safely be said that no finer stock can be found and in quantity and variety the planter will not be embarrassed, no matter what his desires.

In the drive over the town and surrounding country Mr. Wilson took no little pride in showing the advantages especially the great productiveness of the soil. Water seems easy to secure, as was proved by the strong well which supplies Mr. Wilson's nursery with abundance of water.

The water, by the way, is so near the surface that alfalfa is grown without irrigation. Dairying is largely followed and a good creamery takes care of all the surplus milk.

Fruit is the one most important product and one packing house will this year put out over 450 tons of dried 'cots, peaches and raisins. Speaking of raisins reminds us of some of the handsomest raisins we have yet seen. They were grown and cured by W. B. Nichols at his ranch some two or three miles out from Dinuba. The grape is the Thompson Seedless, but the manner of treatment gives an almost white and a beautiful raisin. The manner of treatment is first to dip the grapes, when first picked, in a boiling solution of water, castic soda and olive oil. After draining they are sulphured, much the same as 'cots or peaches, though not so long. The drying then takes but a comparatively short time and the result is very attractive to the eye. To the taste the finest fruit was that which was treated in the boiling bath, but not sulphured. This fruit is a beautiful amber and very sweet. It should sell for enough to more than cover the cost of dipping.

As noted, the sulphured fruit is very light and of beautiful appearance, but the taste has somewhat of peculiar acid flavor which comes to sulphured fruit. The old vines on Mr. Nichols' place were a sight to behold as to the amount of fruit which was being picked at the time of the visit.

Another product which Mr. Nichols takes much pride in is olive oil. He manufactures and bottles in an attractinve way a product which is not only pure but of a high grade of perfect flavor.

Besides the fruits noted there are grown at Dinuba some oranges and lemons. The conditions for these fruits are not so good as at the Porterville-Lindsay-Exeter section, and no particular claim as a citrus section is made.

All in all Dinuba is all right, bound to have a great future and proof of the possibilities which are lying on all sides. Just one of the eye openers which show that California is a great state.

Few scenes at Miramonte, Dinuba, where the Fresno Nurseries are located.

GRAPE GROWING IN CALIFORNIA

(Continued from first page)

January or February, leaving not more than two or at the outside three canes, and these should be cut back to two buds, and left in such shape that the vine will make a symmetrical growth. The prunings so cut off should be removed to the roadway between the vines and burned, care, of course, being taken to cover up the vines in the immediate vicinity so that they will not get scorched.

Pruning being finished, the next operation is the spring plowing. This may be left till late in the spring, after the weeds have got a good start, when two objects are accomplished. The weeds are prevented from seeding, and they act as fertilizers for the vineyard. The spring plowing, therefore, should be done the latter part of February or early in March. It matters little whether the furrows are turned toward or away from the vines but in cross plowing the furrows are always turned from the vines. Cultivating follows plowing and is kept up at regular intervals through the season. In cases where it is necessary to irrigate the cultivator is run through the vineyard after each application of water. The care of the vineyard the third year is a repetition of that of the second, and this year there should be some returns, while in the fourth a paying crop should be had. When the vine has reached its bearing age, at four years, a good many vineyardists practice summer pruning. Every year in June it is the custom to go over the vineyard and cut back the long canes to about three feet in length. This causes them to spread out new laterals, filling the spaces between the vines and serving to protect the half grown grapes. Others claim that there should be no summer pruning, as it produces a heavier second crop, detracting from the quality of the first and in weakening the vine for the next season's crop.

Of varieties, the Flame Tokay is far and away in the lead as a shipping table grape. Its large bunches, bright red color and large berries makes it an especially attractive fruit in the eastern market, while its solid flesh, and good keeping qualities make it one of the best grapes for packing. The rapid growth of the vines, their enormous yield of fruit and the fact that they will thrive under any conditions suitable to the vine, make it a favorite with the growers. Another thing in its favor is that, while it can not be classed with the resistant vines, it is so strong that it will withstand the attacks of the phylloxera, very much longer than any other than the resistant group. The Tokay will do well on any good grape land, but the best results are obtained from a clayey soil, as on this character of soil they attain to a greater degree that deep red color which is their charm as a market grape.

Next to the Tokay, as a shipping grape, is the Cornichon. This is a very large, oblong grape, deep purple in color, with large, loose bunches, comes in late, and is an attractive looking grape in the market. The Emperor and Black Hamburg, follow in order among the black grapes, and, while the Hamburg is one of the most delicate of the table grapes, it has not the good shipping qualities of others named. Among the white grapes the Muscat is a favorite in the market.

As to the cost of bringing a vineyard into bearing we cannot do better than to quote the figures of the Miles, Whitaker & Ray Co., who have in the past few years planted out an immense area to vines around Galt, in Sacramento county, and have kept careful accounts of the cost:

FIRST YEAR:

Plowing	$ 1.50
Harrowing and marking	.50
Planting	1.50
Cultivating (5 times)	1.50
Hoeing around vines	1.50
Cuttings	.75
Total, first year	$ 7.25

SECOND YEAR.

Plowing	$ 1.50
Cultivating (5 times)	1.50
Hoeing	1.50
Pruning	1.50
Total, second year	$ 6.00

THIRD YEAR.

Same as second	$ 6.00

Total cost for three years....$19.25

The figures are given for the acre and represent the bare cost of planting and bringing a vineyard into bearing where the work is done on a wholesale basis, to this of course, is to be added the cost of land, buildings, utensils, taxes and interest, which will increase the total by a considerable amount, but the figures are valuable as a basis upon which to estimate the cost of a vineyard in Northern California

In regard to the profit which may reasonably be expected from a bearing vineyard we have the figures of Col. Weinstock, of Sacramento. Col. Weinstock is a thorough business man, and has conducted his vineyard, and he owns one of the largest in Sacramento, on the same principle upon which he conducts his mercantile affairs, keeping an exact account of everything. The figures given are for ten acres of table grapes in 1901:

RECEIPTS.

1735 crates table grapes .84554 per crate	$1,467.01
78,927 lbs wine grapes, $13.50 per ton	532 75
4,444 lbs culls at $10 per ton	22.22
Total	$2,021.98

EXPENSES.

Balance water, 1900	$ 3.00
Sulphur and twine	4.51
Irrigation, water, etc.	219.67
Taxes, changing pipes, etc	62.70
Cost of harvesting and shipping table grapes	437.67
Cost of harvesting and shipping wine grapes	126.21
Cost of crates and baskets	193.04
Supervision	97.57
Total	$1,144.37
Net profit	$877.61

The following table gives in detail the items of expense:

CARE OF TRACT.

Pruning, etc	$ 42.07
Plowing	35.00
Cultivating and harrowing	20.00
Hoeing	10.95
Care of vines ditching, irrigating, etc	65.40
Water for irrigating	27.00
Pipe rent	19.25
	$219.67

HARVESTING.

Picking and packing	$ 437.67
Crating	193.04
Picking and delivering wine grapes	126.21
Addition to packing house, boxes, etc	51.57
Express	1.75
Taxes	9.03
	$819.27

The yield from this tract was sixty-three tons, or 6.3 tons to the acre.

The California Northwestern Railway Co. has had a very successful season with their Fish Hatchery and Spawning Station work, at Ukiah and Willits in Mendocino county. The backward spring retarded the seasonal run of trout at their spawning station about one month later than usual, and fears were entertained that the catch would prove very light, but the copious rain fall during the early part of March changed conditions materially, and resulted in a very successful catch of eggs, amounting to over a million. The fish taken at this station are of the "Rainbow" variety, locally called "steel head" and are considered among sportsmen to be the finest variety of trout on the Pacific Coast.

WHEN WE MUST PART.

When you must pass beyond, dear heart,
Into the realms above,
Will you somtimes think of me,
And of our endless love?
Oh! will our spirits still commune,
And seem to e'er be near?
Unless 'tis thus, oh how can I
E'er be resigned, my dear?

The world will, oh! so lonely be,
When you are not around.
No happiness for my sad heart
On earth can then be found.
Oh! how the thought of parting love,
My soul with anguish fills;
'Tis hard to feel that it is all
As our dear Father wills.

We wonder why two hearts in one
Cruel death must separate,
And why to both go home at once
Could not be love's blest fate.
No, no! our spirits cannot part;
Sweet memories remain
To keep you in my heart, till both
Shall life eternal gain.
—Martha S. Lippincott in the Gentlewoman.

FOR LOVE AND LIFE.

"Which shall it be?" Howard Merton was asked that morning as he helped Carol Grey into the saddle, "the wood road up the valley?"

"Neither," she answered with decision. "We will go on the cliff path."

* * * * * * *

It was to be their last ride together before Carol left for Europe, and the last chance he would have to be alone with her, and to ask again a certain question.

Now they had come out on the cliffs, with the lazy waves breaking against the rocks 100 feet below them. As far as the eye could see the ocean stretched sparkling and dancing in the sun.

The road was a mere path skirting the edge of the cliffs, gullied and worn by storm, and Merton was right in calling it dangerous.

"Isn't it glorious!" the girl exclaimed, but Merton did not heed the view.

"I wish you'd answer my question," she said.

"Please don't commence that again, Howard. Is it any use? Don't spoil this last ride."

"It's just because it is the last ride. Spoil the ride. How about spoiling my life? Do you ever think of that? Can any man give you more of love, of devotion?"

"I do not know yet," she answered, lightly. "O, dear! why will you continue, Howard? I know all you are going to say. I will tell you that I like you. Why isn't that sufficient?"

"Because I happen to love you. Will you ever know what love is?"

Carol turned and gazed off at the ocean, as if considering. "No," she replied, "I've read of it and heard of it, but I can't understand, and never shall, I suppose. We've been good friends this summer. We've had a jolly time together—until you fell in love with me and spoilt it all."

"I couldn't help it; and I've thought at times that there was some hope—fancied that you really cared. You shall care!" he cried. "You must."

The girl flushed and her mouth hardened a bit. "I won't!" she replied. "I don't want to care. If I loved you then good-by to freedom, good-by to my own will. You would control me as I do this horse of mine—or you would seek to, and there would be continual conflict."

"But you needn't, and besides, if you cared—"

"If I cared? I suppose I wouldn't mind then, but do I care?"

"That's what I want to know."

"I'm afraid I don't—at least not enough to give up my own will to yours. I want to continue as I am. Here I am, young, free, with all the great, wide world before me to see, and you ask me to give it up."

"I don't ask you to give it up. Go abroad, see the world, take your pleasure; only leave me some hope."

The girl gave an impatient shake of her head. "I should feel as if I were a tethered animal if I did," she said. "I hate the thought of being mastered."

"And yet one of us must control."

"That's it. If we were married. I would want to rule everything—and if you let me I would hate you. Ah, well, let's not talk of it any more. I'm for a gallop."

"Along here! Nonsense!"

"But I will. I want to."

"It's too dangerous."

"Are you afraid?"

"Yes, for you, and I won't let you risk your life."

"You can't help it," Carol replied "I'm going to. Danger is the spice of life." And as she spoke touched her horse lightly and trotted ahead. Merton quickened his pace.

"Don't Carol!" he cried, but she only laughed. "I'll tell you what," she said, looking back at him, "here's a proposition. I will race you to Bald Knob, and if you catch me the prize shall be—the promise you asked of me. My freedom against yours. Who loves me follows me."

She flung the words back at him, and before Merton could gather up his reins she was speeding forward over the rough bridle path, her body bent forward over the horse's neck.

For a moment Merton hesitated, the next he dashed after her, all his thoughts concentrated on the flying figure ahead. She turned once and smiled mockingly back at him. Her scarf streamed out behind her, her hat was off, and her hair, unbound, whipped her neck.

"Jove, how she can ride!" thought Merton in admiration. "What courage! What will! Ah, if a man could but conquer her—could but win her!"

He drove the spurs into his mare and she leaped forward. The road flew past like a narrow, white streak; all he could hear was the quick thud of the horses' feet. Faster flew the black horse and his rider as they heard the sound of the nearing hoofbeats, and faster flew the bay mare.

Little by little Merton gained. Nearer and nearer he came, watching for a chance to pass the girl, and then claim her promise. Bald Knob was in sight, jutting out into the sea, and Merton made a last effort.

He pressed forward, urging on his mare by whip and spur and spoken word, and then, as he came abreast, he saw that the girl was tugging at the reins, trying her best to stop her mount. The black had taken the bit in his teeth and bolted. It was no longer a race, but a runaway on a narrow, stony path, bordered by steep cliffs.

If Carol could keep her maddened horse in the path she would be safe unless he stumbled—if not—

Then of a sudden Merton's heart gave a jump. He remembered that the cliff at one place ahead had given way, leaving a chasm right across the road—and the woman he loved was riding straight to her death unless he could stop her.

"Pull to the left!" he shouted. "Quick! The break in the cliff-"

Even as he spoke Merton saw the yawning gap just ahead. There was but a moment to act. He leaned over and caught the girl around the waist. "Free your foot," he cried and as she did so, he lifted her from the saddle by main strength and swung his mare to the left as the black horse thundered on riderless and plunged over the chasm.

There was an instant's suspense, and then Merton's mare stumbled, went down in a heap, and Merton knew no more.

When he came to he was lying on the grass by the path side, his head supported by Carol's arms, and her lips against his.

"My darling! My darling!" he heard her cry. "Have I killed you? O, forgive me! Now, when it's too late, I know what love is!"

But it was not too late.—Indianapolis Sun.

THE OLD STORY.

The old story of a heart-broken young wife, made so by a thoughtless husband, who in a moment of petulence railed at his wife because she could not cook to suit him, as his mother used to do, has again been repeated in cases of suicide lately reported in this state. The Fresno Democrat, whose editor warmed up by the ingratitude of some cad of a husband, writes:

"A pathetic case of suicide was that of Minnie During in San Francisco a few days ago in her wedding gown and jewelry. She was the wife of a letter carrier and had married him only a few days before the first tiff came with her husband. They had quarreled about her cooking and the wretch of a man had, like so many before him, thrown his mother's ability as a cook into the face of the poor little bride. When he expressed himself disgusted with the wedding bargain, she cried out, 'Oh, Frank, you don't mean that, do you?' He answered savagely that he did; the heart broken bride left the room in tears muttering. 'I have nothing to live for,' then collecting her little love tokens, turned on the gas and next morning was found dead, the tear marks still begrimming her cheeks. In this case very likely the woman was over sensitive, but this everlasting nagging of young and inexperienced wives on the subject of a mother's cooking is as fruitful a cause of heart pangs and domestic discord as a mother-in-law's interference. As regards this San Francisco letter carrier's case, he may go through life with the fearful thought on his mind that he was morally the murderer of that supersensitive little bride. May he choke to death when he next tastes of his mother's cooking."

TO PREVENT MOTHS.

To prevent moths in blankets, sprinkle shavings of yellow soap among their folds before storing them away. The soap can be easily shaken out when the blankets are to be used, and in the meawhile it will save you much worry and anxiety, for moths will not go near it.

TO CATCH FLEAS.

Two or three sheets of fly paper spread out under the bed will catch all the fleas in the bed, when the mattress is turned, and also from the carpet.

Willie had been to Sunday School. At luncheon grandma passed him the deviled ham. "No, thank you," said Willie. "I have renounced the devil and all his works."—Springfield Republican.

Recipes...

GRAPE RECIPES.

Grape Jam.—Stem and seed your grapes, put on to boil. After boiling down one-third add cup for cup of sugar and boil until thick. This makes a delicious jam, however it is greatly improved by the addition of English walnut meats, chopped fine. About one cup to ten is the proper amount.

* * *

Canned Grapes.—Seed your grapes, make thick syrup same as for any fruit, drop in grapes and cook for a few minutes. Seal in cans hot. The Muscat grapes put up in this way make a very fine sauce.

* * *

To Seed Grapes.—The only satisfactory way we have found to seed the white grape is by cutting open with a knife. The use of a colander in seeding is wasteful, as it uses up too much of the skins, which in jams or canned fruits cook up to be as good as the pulp.

* * *

STEAMED RICE.

Wash and drain the rice thoroughly and put it in a double boiler; to one cupfull add three cupfulls of boiling water and half a teaspoonful of salt. Cook for about an hour, or until soft or nearly so, when it can be put into a steamer and finished, or it may be placed in a slow oven to partly dry. Fruit, such as raisins, dates, etc., may be added as preferred.

* * *

FIG SANDWICHES.

Cut thin slices of whole wheat bread and butter them. Chop the figs or a mixture of dates and figs, moistening with a little fruit juice of almost any kind. Spread evenly upon the bread and cover with top slice, also buttered.

* * *

SEED CAKES.

Cream one cupful of sugar, with half a cupful of butter; add to this two beaten eggs, half a cupful of sour cream with half a level teaspoonful of soda dissolved in it; now add flour to make a stiff batter, one level teaspoon of baking powder, and half a cupful of flowered caraway seeds. Bake in one-loaf or patty pans.

* * *

FRUIT ROLLS.

Stir one tablespoonful each of butter and sugar and one tablespoonful of salt into one pint of scalded milk; when lukewarm add half a cake of yeast dissolved in one-fourth of a cupful of water and three cupfuls of flour, or enough to make a drop-batter. Let it rise until light, then stir in one-half cupful of butter creamed with one-half cupful of sugar, and add sufficient flour to make a stiff dough. Knead until smooth, and when light roll it out thin and cut into squares of about four inches. On the center of the dough lay half a canned peach, well drained, or four or five stewed prunes, or any preferred fruit which has been stewed and sweetened. Bring the corners up to the center, and press them together lightly, leaving spaces where the fruit shows. Lay them close together, and when risen again until light bake in a quick oven. —New Ideas.

SUGGESTIONS FOR SCHOOLROOM LUNCHES.

Below will be found several specific suggestions for the noon lunch.

LUNCH NO. 1.

Roast Beef Sandwiches.
Baked Apples.
Whole Wheat Bread.
Cup Custard. Seed Cake.
Ripe Peaches.

* * *

LUNCH NO. 2.

Roast Beef Sandwiches.
Baked Apples.
Small Rice Pudding.
Oatmeal Cookies. Cream Cheese.
Grapes.

* * *

LUNCH NO. 3.

Fig Sandwiches. Cracked Nuts.
Celery.
Sponge Cake. Currant Jelly.
Pears.

* * *

LUNCH NO. 4.

Cold Chicken. Buttered Biscuits.
Lettuce.
Comb Honey. Cream Cookies.
Peach Figs.

ASK AND IT SHALL BE GIVEN.

"Ethel, dear," said Bessie Brown, with proud eyes, "my brother, Philip Estes Brown, from South Africa."

Lieut. Phil bent over the dainty hand of his sister's chum, mentally contrasting her radiant fairness with the sun-burnt faces of the Boer ladies, his principal feminine society for two long years.

"I am pleased to meet you," he said, simply. "Bessie has often written of you. I can't express how glad I am to be shaking hands with a genuine English girl again after so many months of desolation."

"And I," said Miss Mackay, with charming seriousness, "am glad to meet one who has given up home and business to uphold his country's flag. My father fought for it in the Crimea. Besie told me," she continued, when the three had adjourned to the verandah, "that you received your wound in saving one of your men. Would—would you mind telling me about it."

"There isn't much to tell," said Phil, with an embarrassed laugh. "Bessie"—with a fond glance at his sister—"has constructed quite a romance out of it, with me for the principal character; but it was the other fellow who was the hero."

"We ran into an ambush about a dozen miles from camp—twenty of us; myself, the only officer, in command—and only by the greatest good fortune escaped annihilation. But we managed to reach cover with only half a dozen wounded.

"It was a sort of natural pocket in the rocks, a regular little citadel; but while the enemy couldn't rush out of it, we couldn't get out, either, for we were completely surrounded, and they numbered ten to our one.

"For two days we lay on those broiling rocks, hoping for the help which didn't come, till the heat and the want of water—for that had given out the first day—began to make the men go off their heads, and the suffering of the wounded made my heart ache.

"Things looked so black that I had about made up my mind to give up in the morning of the third day when one of the men—Rogers his name was, a splendid fellow—came up to me and saluted.

" 'Lieutenant,' he said, 'there's water out there about 200 yards to the left of us. I saw it as we were driven in. I can take half a dozen canteens, and when the moon goes down behind that cloud make a rush. If I get back we can last another day; if I don't—well, it's a man's death, that's all.'

"I wrung his hand impulsively. 'Spoken like a gentleman and a soldier,' I said, for I had long known he was a gentleman, though only a common Tommy Atkins.

"He reached the water safely, but half way back the Boers saw him as he crossed a patch of moonlight and fired; then he fell and lay still, and—and" continued the lieutenant lamely, "I went out and brought him in."

"He brought him in on his back," broke in Bessie, "with two bullets in his own shoulder. And what do you think, Ethel—the man's name wasn't Rogers at all, but Mackay."

Ethel had risen with staring eyes.

"What was he like, this man?" she whispered. "Was he tall and fair, and did he have a scar across his temple—so?"

"Why, yes,' said Phil, wondering at her agitation. "He was just like that—how did you—

"He was my brother, she cried. "He left home angry with father. I cant tell you why now; but father was in the wrong. He isn't dead—he will get well?"

"Oh, yes," said Phil; "he's all right, and there is a commission waiting for him when he gets out of the hospital."

"I must go at once and tell father," said Ethel, hurriedly. "Won't he be glad—and proud! But you," turning suddenly; "what can I say to you, who saved my brother's life?"

"Perhaps," he said audaciously, 'when I come back for always I may ask you for something. May I hope that—"

A sudden flood of red dyed the girl's pure face.

"Ask, and it shall be given thee," she quoted, softly.—New York Daily News.

The red rose says, "Be sweet,"
The lily says, "Be pure,"
The hardy brave chrysanthemum,
"Be patient and endure."

SHUN THE BOARDING-HOUSE.

Young man the time will soon come when you will seriously entertain thoughts of marriage. When the happy hour has arrived which makes you a married man, at once resolve that you will have a home of your own. Avoid a boarding-house, unless as a temporary abode. Boarding-house life encourages laziness, and wives who have no regular duties soon learn to gossip—at first to pass away the time—and afterward for pure love of scandal. The woman who indulges in this questionable pastime seems to forget that when she is absent from the meeting of the gossipers' club, that her character and habits will be discussed by her boarding-house friends, and certainly not to her credit, for scandalmongers always have something derogatory to say of the absent.

In a boarding-house there are no "home" attractions or duties, and the female occupants are forced to seek amusement elsewhere—some by constant visiting among such gadabouts as themselves, and others by shopping excursions, without the least intent of purchasing. The shoppers roam from store to store, examining the goods here and there, and causing the clerks useless and irritating trouble.

A young wife who has spent one year in a boarding-house has rendered herself unfit to preside over a home. She has become lazy, discontended, and has learned from her older associates a great deal concerning matters of which a good and true wife should be ignorant. Promiscuous association, such as prevails in the average boarding-house, should be avoided. It is very apt to seriously affect even the most conscientious of women, while to the young wife who lacks stability of character, it is likely to work an irreparable injury which leads to lifelong unhappiness.—L. A. in Housewife.

A little girl had sent back her plate for turkey two or three times and had been helped bountifully to all the good things. Finally she was observed looking rather disconsolately at the unfinished part of her dinner.

"What's the mater, Ethel?" asked Uncle John. "You look so mournful."

"That's just the matter," said Ethel. "I am mor'n full."

And then she wondered why everybody laughed.

THE CALIFORNIA GIRL.

The California girl already averages taller, heavier, stronger than her eastern sister, writes Charles F. Lummis in Good Housekeeping. Scientific measurements in California and eastern colleges a few years ago showed that the California undergraduate surpassed the New England girl of the same age in almost every measurement—with ten cubic inches more lung capacity, and a superiority in tested total strength (back, arms, legs and chest) of 716.2 to 493.7. But she has smaller feet and waist.

It would be strange if this were not so; and the disparity must increase as the type evolves and fixes. We shall presently have a new species of the genus girl—Puella California.

The California girl has a fairy godmother and her name is Nature. She has all seasons for her own, and no stepmother weather. The California girl can ride, drive, swim, walk, golf or picnic, any week in the year—any day, except the twenty or so when it rains. It is never dangerous nor uncomfortable out of doors; and she is out more than any other American girl. Quite as vital as this, she never has to breathe impure air, day or night. No wonder she builds a chest like Juno. And her amazement when she finds what people breathe in winter in the east is as great as her pity

Not only the climate but the scenery of her state help in the development of her, physically and mentally. There is no other land in the world with such a range and variety of outdoor nature of the noblest type.

Another advantage of the California girl is that she can—and generally does—eat more sanely. Fresh vegetables, fresh fruit, fresh fish, every day in the year. For oysters, every California month has an R; and these amiable bivalves are as good in summer as in winter. Strawberries every week in the year. All this makes for better digestion; and presently the California girl will have a stomach all her own.—San Jose Mercury.

BE HOPEFUL AND CHEERFUL.

But not least is the awakening and enthusiasm which comes from contact and acquaintance with those who have had trials like one's own, and by energy and perseverance have overcome difficulties which just now seem unsurmountable to ourselves. The writer knows whereof he speaks, having experienced nearly all the kinds of "luck" that comes to a farmer in a comparatively new country, and he can and does sympathize with those who may be wrestling with threatened misfortune and possibly despair. For all kinds of discouragement there is no one remedy that equals a cheerful disposition, and nothing tends to promote this spirit like activity, especially if something or somebody is made more comfortable or happier. If one is threatened with financial distress nothing will assure the creditor of the desire and ultimate ability to meet obligations like an active disposition and enthusiasm for one's business. Make the most of present opportunities. Discouragement of mind is apt to produce its effect upon the person, which in turn is reflected in the appearance of his stock, buildings, family and fields. Begin by making the family more comfortable than the stock. Tidy up around the premises and note how quickly increased self-respect appears, and with it credit and commendation from all. Let us begin the year by dealing justly with ourselves, our families, our animals, our land and all with whom we come in contact.—Farm and Home.

BUT IT DIDN'T SUIT HIM.

"Yes," said Mr. Wyncoop, heaving a sigh, "my wife is a delicious cook; and when we kept house and the hired girl's cooking didn't suit me she'd do it herself. I wish you could have a cup of her coffee. Why, in the whole two years we lived in Bunk street she never once set a poor cup of coffee before me. And her biscuits! Why, they were just like marrow.

"Some way I don't relish anything in the hotel where we are now. Now, tonight, for dinner, I ate a little soup, of course, and just tasted of the fish, with a litle tartar sauce and potatoes. Then we had roast lamb—I don't care much for roast lamb, but I thought I'd better eat some—and some French peas, and some potatoes roasted with the meat—I care more for them than I do for the meat itself. I didn't eat any of the tomatoes, they say they give you cancer. I did manage to eat the most of the broiled chicken, for I wasn't feeling very well and broiled chicken always agrees with me, especially if I eat watercresses with it; but I didn't touch a bit of the lobster salad, just turned my plate into Mrs. W's; she's very fond of it. I don't know as I ought to have eaten that lemon pie, but their pies are pretty good there and I ate two pieces; and a little wine jelly and some fruit and cheese. Mrs. Wyncoop isn't very much of a hand for ice cream, so I ate hers, and a few lady fingers. I didn't eat any of the nuts, though; just a few raisins, and drank a small cup of coffee; and here it's only ten o'clock and I don't feel as if I'd eaten anything in a week."—Household.

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THE JOY OF LIFE.

Oh, the joy and the glory of life when we can get close to God. Not a flower, leaf or vine but embodies a sermon as eloquent as ever came from lips of man. Even the insects—though we find it difficult to believe it—each has its place in the great universal plan of creation. Even those which seem a pestilence are, after all, but messengers telling of disease germs somewhere, either in decaying animal or vegetable matter.

The great buzzing bumblebee carries the pollen of the clover so that the seeds that fall upon the earth again may have life to sprout and grow under the springtime rain.

And so things, even though we may not understand, have their purpose, and while we can find our lessons in even the brick and mortar of the city, it is out amid the trees and running brooks inhaling the pure, sweet air, hearing all the sweet melodies of woodsy cathedrals, the diapason of the storms that we come close to God.

And what are we each but a world in ourselves, with pestilential insects breeding in the miasma of our wrong doing; flowers blooming where our hands plant gentle deeds; sun a shining when we feel that we are doing our best and our efforts are prospering, storms beating and surging under affliction or disappointment. Each, as we move in our little orbit, have an influence over others.

But, as with the storms, even in the lowliest, most pitiful phases of life, still the "joy of life." The poor outcast upon Blackwell's Island, seamed and scarred with sin, holds to her breast the new soul embodied in flesh that another outcast has left motherless, and nourishes it from her own body, even though it must share with her own offspring at the maternal fount. Did poet or philosopher ever touch a more angelic strain? like a white lily arising from an ozzy bed of slime.

The most repulsive, bedraggled tramp has been seen to lift from the path, where it has stumbled, a little child, and restore to its chubby hand the pennies which had escaped from the baby fingers—pennies which would have bought for him a loaf of bread and the child some sweetmeats or a toy that it did not need. Surely it was the God within him that caused him to act and the innocent child recognized it beneath the filth and the rags and smiled up into his face and for that brief moment the "joy of life" dwelt in the heart of the tramp.

Surely there is no living creature so vile, so hardened but when the right hand touches the heart strings it can be attuned to melody. It may not be you, it may not be me, but some where there is a pure soul with a magnetic touch that could lead from the cell to the throne, the throne of honesty and godliness.

And higher up, at the very heights of fame of social honor of financial success, are hearts that ache, and eyes often dim, because they have passed beyond "the joy of life." They have in their haste to attain, strayed from nature's path and veiled their eyes to its lessons. Yet again, even there is often the sweet joy felt and guarded from the world; the joy of giving, of helping those who are trying hard to gain the heights. By educating the boys and girls who are dear to them, but without means; or those who are strangers but worthy; by endowing hospitals and homes.

The girl that protects the bird or the animal, that is thoughtful, helpful, unselfish and considerate, knows "the joy of life," and its sweetness will continually surround her.

The boy that is manly, strong without aggressiveness, honorable, obedient to his parents, grateful to them, trying to repay them by loving consideration, will be blessed with more than wealth.

The sweetheart who continually thinks how she can make herself a good wife in all that the word implies, fitting herself for housewifery and for motherhood; who allows no familiarities, even from the man she loves, but is like a pure, radiant star guiding his footsteps, knows the sweet "joy of life."

The husband and wife who each forgive and forget and allow no fretting discords in the music of home; who each assume cheerfully their separate burdens, will eventually become in truth as one.

Lastly, the one who must sit alone, with seeming bitterness and disappointment as a portion. It may be some man, or possibly some woman. Fortunately we cannot see beneath the seemingly placid or stern face, but even for them there is a joy of Hope, of unselfishness toward all, of making their very sorrows a joy and strength to those walking through the shadows who need a kindly hand to aid them up the steep path.

When weary and heartsick, fly to the fields, the trees and the sunshine and they will hush the wild tumult and you shall know all of "the joys of life." —Edith Hall.

FEMININE SIGNIFICANCE IN PERFUMES.

While few women realize it, yet in no way are their characteristics, traits, weaknesses and foibles displayed in a greater degree than in their choice of sweet odors. It is the exception when a girl or woman does not love a delicate perfume or use it in some way in her toilet. Some women always throw a few drops of some sweet scent into the water in which they bathe. Others have sachet bags sewed in all their dresses. Dainty notes from certain women betray their writer before opened by the delicate sweetness that they send out, while the old-fashioned housewife thought that her linen closet was not properly cared for if plenty of lavender was not scattered about, and the modern ones place odorous pads between the mattress and the lower sheets.

A voliet-scented atmosphere makes those who are surrounded by its influence religious, affectionate and peace-loving. Woman of lovable natures are always fond of violet.

Heliotrope generally finds devotees among the dainty, neat and rather unassuming disposition who dislike fuss or notoriety.

Rose perfume is most frequently used by warm-hearted, imaginative temperaments, who are inclined to extravagance and have a disregard of the more serious issues of life.

Lavender numbers its admirers among natures with high aims, and with a love of detail and exactitude. Eau de cologn is accepted by honorable and reasonable natures, having high aims and ambitions.

Lily of the Valley is used by women of imaginative temperaments, who are both affectionate and demonstrative, but obstinate to a fault.

Strong perfumes such as Jockey Club, opopanax, musk, single out their users as ambitious and strong willed, but of uncertain temper and mean spirited. A heavily perfumed atmosphere is eneravating and deteriorating. —Commercial-Appeal.

AUTUMN SONG.

Laugh out, laugh out, ye orchard lands,
With all your ripened store;
Such beauteous measure nature yields
How could heart ask for more?
Laugh out, laugh out, ye ripened fields,
With e'er increasing mirth;
The joy your bounteous measure yields
Shall bless the whole round earth.
—Successful Farming.

HAPPINESS OF THE FAMILY.

The happiness of a family is not dependent upon wealth, but it is more dependent upon the wife and the mother. She must be a home-maker—a womanly woman, but she must also be a home-keeper. The need of comfort, peace and happiness in an every day craving—and the old proverb about the dinner of herbs and the stalled ox is a true one.

What most of our sister housewives need is not to worry—to overcome the habit if possible—to study to have more recreation. My dear sister woman, if proivdence should take you from your loved ones, some one would be called to fill your place; so try and stay with your loved ones. It is said by a philosopher that good temper is characteristic of great mental power, for tolerance has its source in both the heart and the head.

A wife and mother who is delicate and nervous must recognize her want of strength and save herself all she can. I don't wish to preach a sermon, my dear sister housekeeper, but I wish to make your burden lighter. So many housewives rush through their duties day after day without any thought of trying to save themselves. Why should a busy, tired wife and mother stand and wash dishes when she could as easily sit down and have a restful cushion. Keep mops, plenty of nice tea towels, a little box of borax to put in the dishwater to cleanse quicker and to save your hands. If only you would strive to have every device for lightening your labors you could bring so much happiness and sunshine into the living room. The family are so much happier to have the dear mother present. Another hard duty is the sweeping daily of carpets. Try this plan: Sweep one by dipping a clean broom into a warm suds with two tablespoonfuls of borax in it. It allays the dust, disinfects and cleanses beautifully.—Sara A. Henton.

MAIL BY TELEPHONE.

Press dispatches state that when congress meets Senator Fairbanks will take up the matter of adopting rural telephones for farmers.

"Senator Fairbanks talks enthusiastically of the matter, says the report. He believes that the adoption of rural telephones will make it possible for the farmer to receive his mail as quickly as the man in town. He would have it arranged so that a postmaster could open a special delivery letter and read it over the telephone to the man in the country."

"Dare to be right, dare to be true,"
Never forget that's the thing you should do.
Keep the brave motto ever in sight,
For you'll never be left as long as you're right.

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Clever, entertaining, authentic.
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SOUTHERN PACIFIC

CHICKENS FOR ROSE BEETLE.

Editor Cultivator:—After reading the article in the Cultivator on the "Fuller's Rose Beetle" I am sure it is the pest we call in this section the Florida bulldog. Two years ago it was destroying, or at least seriously harming nearly everything in a large garden of roses and ornamental shrubs. I tried nearly everything, including tying cotton batting around the stems of plants, all to very little purpose.

At last I turned about two dozen hens loose in the garden for about two hours every day, hens that were kept penned up in the meantime, and now I do not think one rose beetle or bulldog can be found in the whole garden, or any trace of one. I let the hens loose every day and do yet, after irrigating they did their best work. To be sure they did some little damage, but nothing to speak of when the good they did is taken into account.—Wilbur Conover, Pacific Beach.

ORNAMENTING CITY STREETS.

Mr. Frank Lobingier, member of the City Council of Pomona, is seeking advice regarding tree planting in their city streets. Mr. Lobingier is very wise in stoutly urging that only one kind of tree be planted on both sides of a single street, and that variety be secured by changing as we go from one street to another. I believe Mr. Lobingier is right in the belief that this uniformity is so desirable that it would even pay to cut down the present trees and plant anew to secure it. Trees grow so rapidly in Southern California that the loss would soon be made good and then what a beautiful city we would have. February is a good month to set trees and any month in the year is a good time to clean up the weeds which so disfigure our streets at the present time. Weed cleaning is a work sadly needed in all sections of our state.

A San Francisco dispatch states that the State Board of Trade has instructed the manager of the board to inquire and report concerning the practicability of instituting a general inquiry into the fruit market, foreign and domestic, with reference to the ascertainment of all the facts relating to such market, and especially with reference to the amount obtained from such sales, to the end that the price paid to the fruit grower of this state shall more nearly correspond to the price at which the fruit reaches the consumer.

PROFITS IN BEEKEEPING.

This is a subject on which much may be said and written, both in favor of the industry and the reverse. Like the visionary profits in ginseng, the profits of beekeeping are often largely over-estimated. Like all legitimate industries, beekeeping should be, and can be, made profitable, but where one man makes a success of beekeeping more fail to derive profit therefrom.

This condition of things arises more from the prevailing ignorance of small apairists concerning the bees, their habits, peculiarities, and requirements than from any other cause.

There are men who have kept bees for years who will tell you that bees do not pay. Inquiry (if you do not already know the facts) will disclose what an intelligent beekeeper will immediately suspect, that such a man is ignorant concerning bees; that he really knows almost nothing about them.

One may learn to do other lines of work by observing how others do it, but successful beekeeping is rarely learned in this way. To be sure one may (and when possible this is a good way, too) work with a practical apiarist and learn his methods. This, however, few young men can be induced to do, and there is little to be gained by simple observation alone; so that, in later years when a man gains possession of a few colonies of bees, he is absolutely ignorant of their habits and requirements.

So true is it that lack of proper knowledge is the most universal cause of failure to secure profit from beekeeping that any intelligent person who is willing and able to devote sufficient time to the work may make a successful apiarist.

Let any man with an ordinarily good location, such as almost every farmer does have, pay a fair price for a few strong colonies, secure a standard work on apiculture, subscribe for a reliable bee journal, and proceed to study his literature and his bees together, and I will prophesy that that man will make an enthusiastic and a successful beekeeper

From such a small beginning, through such self-acquired knowledge, almost all our noted apiarists have developed.

One of our best authorities on this subject, the author of a universally recognized standard work, began his study with an absconding swarm of bees which he managed to capture. Every student of apiculture is now familiar with his name.

I remember when quite young a school mate coming to our house to secure my father's aid in finding a bee tree. The tree was found, cut, and the bees transferred to a hive. Now, less than twenty years later, that youth is an apiarist who owns, controls and manages many hundreds of colonies, located in various places. His income, though probably exaggerated, is said to be enormous. His father before him was not even a beekeeper. And so this man, without any previous knowledge, by means of such literature as all may obtain, has accomplished this wonderful result, alone and unaided.

While all cannot reach his heighth of success, nor even hope to, yet any who will apply his mind and devote his time to the work may be reasonably sure of a fair profit on the investment.

As to the exact amount of money one may expect to realize from any given number of colonies, I can not say. One year with another, we have realized in the neighborhood of $6.00 per colony set out in the spring, but in large apiaries I doubt if this could be averaged.

In fact, I believe this to be more than one would ordinarily be justified in expecting, at least without considerable experience in the work. Deducting from this the cost of hives, foundation, and packages leaves considerable less for profit. Yet there is a profit which pays well for the time and labor expended, if that time and labor can be spared from other farm duties. In this instance I am, or always have been, able to do the work in the apiary but it is not reasonable to expect housekeepers who have everything else to do to undertake so much extra work in addition.

Farm help is scarce, high, and often incompetent, so that if a man must hire extra help on the farm in order to work in the apiary it is doubtful if it will pay, unless he keeps a large number of colonies. No one man is physically able to do the general work of the farm and take care of an apiary besides, and do justice to both. So unless one is situated so that they can care for bees without employing extra help or intends to make apiculture an extensive business, it is not often advisable to keep bees at all, for, without intelligent care, they are seldom or never profitable.—Millie Honaker in Farmers' Sentinel.

VIEWS IN SONOMA COUNTY.

One of the richest sections of California is the bay counties north and west of San Francisco.

WELL TO KNOW.

A very good substitute for cream in coffee or to serve fresh on fruits may be made as follows: Beat the whites of two eggs very stiff, add a teaspoonful of sugar and one teaspoonful of corn starch; then gradually add a cupful of cold milk, beating steadily until all the milk is used. Heat a cupful of milk with a piece of butter the size of a hickory nut in it. When at the boiling point set it back on the stove, and pour in the egg mixture. Let simmer until the milk thickens to the consistency of ordinary cream. Strain through a fine seive, and allow to cool.—J. R. Mackintosh.

Sacramento will can 4,000,000 pounds of tomatoes this year.

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Riverside Mercantile Agency, Riverside Cal

GO TO GARDENA

Do you want a bargain? Do you want to make money and live in a beautiful farming district near street-car lines, 30 minutes from Los Angeles? Then "Go to Gardena," where there is taken an abundance of water from deep wells, ranging from 200 to 260 feet deep, and furnishing from 40 to 150 inches of water (per well) pouring forth an inexhaustible supply of pure soft water, both for irrigating and domestic use.

The soil is rich sandy loam, laying level and well adapted for irrigation. It produces the finest quality of alfalfa, berries and vegetables. The climate is ideal. There is a good class of people, churches, schools, etc.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room honse, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house snd barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

GRAY & NELSON
Gardena, Cal.

When we advertise we should try to impress upon the minds of the people that we have something good in store for them. We should so frame our advertising matter as to make it appeal to the individual as would a personal conversation. Literature is not considered advertising, but I think one cannot write too much about his business if he does so in an interesting manner. We should endeavor to say many things to our trade. If we can tell them how our business is managed, how the goods are bought, and how careful we are in deciding just what to buy, we are sure to interest the public. The more we talk about our business the more others will. It is our duty to start the ball rolling, and you may be sure the people will keep it going. Lots of people have nothing else to talk about but the stores where they do their buying. If we desire to be talked about in this way we must give the talkers something to think about first.—Boot and Shoe Recorder.

There are advertisers in the Cultivator who are acting on this basis. They educate and interest the readers in their wares persistently and constantly. It is true not only along the machinery line—not only are farm implements advertised, but the demand of the producing class for the better grade of clothing, boots and shoes, furniture and other wants are supplied on mail orders.

As the Agricultural Advertising says: "The farmer is a buyer of the progressive sort. The good clothes that suited him a year ago are not what he wants now. He is no longer content with salt pork for a ration. It's beefsteak, and he has ice and a refrigerator to keep it from spoiling until he is ready to have it cooked."

This fact is recognizzed by the London Clothing Co., of Los Angeles, who have for years sought and secured much of the best trade of Southern California by interesting the agricultural classes in the up-to-date clothing. That it has been a profit bringer is proved by the years of advertising which has been continued in the Cultivator. Their plan of dealing is indicated in their last week's ad. "Broad variety yet, and every one a bargain that will give us another clinch on your friendship."

* * *

The Blaney Shoe Co., of Los Angeles, is another seeker for Cultivator patrons. Mail orders are a specialty, but if in the city, get acquainted with Blaney. He is square in his deal, keeps good goods and the price is usually reasonable.

* * *

I. T. Martin also looks for and secures much outside of town trade. He sells furniture in large variety. Low priced and substantial also elaborate and in latest styles. Carpets and mattings may also be secured in all grades to suit the most fastidious.

* * *

One of the large and representative houses of Los Angeles which handles farm implements, wagons, carriages, etc., which has had years of testing as to its reliability is that of Hawley, King & Co. It has two large houses for showing the goods, the large retail house for the city trade at Fifth and Broadway and the wholesale implement house at Los Angeles and Requena. The firm handles the Deere manufactures, which have a reputation established the world over. Just now the most seasonable article is a fertilizer drill, for the season will soon be on for the application of fertilizers.

Long Beach has made a contract with the Standard Oil Company for 3000 barrels at 71 cents a barrel on board cars at Los Angeles. Oil is held to be better and cheaper than water.

The California Cultivator is expanding and it merits expansion. Its circulation is over 9000 and says it will celebrate the New Year with 10,000. —Pomona Times.

Alexander C. McAdie, director of the weather bureau writes up the conditions of crops and weather for the past week as follows:

The weather was slightly warmer in most sections than during the preceding week and generally clear until near the close of the week. Light rain extended from San Luis Obispo northward along the coast and in the Sacramento valley, but did not reach the central and southern San Joaquin valley nor Southern California.

Owing to the ample warnings to orchardists and vineyardists, there was no material damage to raisins and deciduous fruits on trays, and the clear warm weather following the rain was very beneficial. Late grapes on the vines, of which there is a considerable quantity in the Santa Clara and Sonoma valleys, were probably somewhat damaged, and there was some injury to beans and unprotected hay. Grape picking is progressing rapidly, and the shippers and wine makers are handling the crop expeditiously. The first crop of raisins is nearly all in the packing houses and the second crop is being dried. Prune drying is nearly completed. The almond crop is all gathered, and walnut harvest is in progress. Walnuts are of better quality than usual but the yield is light. Apple picking continues. Oranges are in excellent condition and are ripening rapidly in the Porterville and Oroville districts: a heavy crop is predicted.

It is reported that beans were not materially damaged by recent rains, but the crop is considerably lighter than expected in most sections, though of superior quality. Sugar beet harvest is nearly completed. Corn and potatoes are yielding good crops. Plowing and seeding are in progress in some sections.

In the San Jose valley, the weather was favorable for fruit drying and raisin making. Oranges continue in good condition and are coloring well; picking will probably commence about the 25th. Potato digging and corn picking are in progress, and some late alfalfa is being harvested.

In Southern California fruits are in excellent condition and will probably yield more than the average crops. Apples are nearly all gathered. Walnuts in Orange county are of better quality than usual, but the yield is below average; picking is in progress. Beans were not seriously damaged by recent rains except in a few places; in Ventura county the yield is better than expected, while in Santa Barbara county the crop is much lighter than two years ago, though of superior quality.

BEATS THEM ALL.

R. M. Teague, the San Dimas nurseryman, is most enthusiastic over this section of the state as a citrus center. "There is nothing in the south to come up to it," said he "Why there is nothing on earth that beats the young orchards of Boydston Bros. and Henderson and Winters. You could not make the people down south believe it. You have no scale to contend with, and think of the money saved in not having to spray or fumigate. It costs in the neighborhood of $100 or more a year to keep a fifteen year old orchard clean. The oranges are way ahead in ripening, too. Our oranges are not really ripe before January. Your oranges if they are not colored, are sweet inside. It is strange to me that land is held so cheap here. Land without water sells from $150 to $300 an acre down south, you can buy the same here from $30 to $100 an acre. I think nursery stock will sell at seventy-five cents f. o. b., that is good stock. I will have 100,000 good trees for sale. There will be in Tulare county about 50,000 nursery stock for the market."

The above, coming from a man with the experience that Mr. Teague has had, and who owns the largest citrus nursery in the state, is sufficient evidence to convince those seeking for a citrus investment, to come to Porterville and Tulare county.—Porterville Enterprise.

Los Angeles Markets.

LOS ANGELES, Oct. 15.

The produce market showed little change from last week's quotations. Vegetables remain at almost former quotations. Business has been active during the week and the demand for butter is steadily increasing. Spring chickens not as plentiful as last week but of a better quality.

The grain market shows little change.

Butter.

B. of T. Creamery, per 2lb roll		70
So. California, dairy, do	65	67½
Cooking	52½	57
Cold storage	50	60

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	16	17
Swiss	13	
Imported		28

Eggs.

Fresh Ranch	34	.35
Fresh Eastern	26	.27
Store, case count	24	.25

Potatoes.

River, cwt.		1.25
Salinas, do.		1.65
Local, do.		1.00
Sweet Potatoes	2.00	2.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, yellow, cwt		1.10
Beets, per 100 lbs.		1.00
Cabbage, per 100 lbs.		90
Carrots, per sack		90
Chilles, green per lb		.03
Lettuce, per sack	.25	

Fruits; Fresh.

White figs, 20-lb box		.75
Black figs, 20-lb box		.75
Cantaloupes, per doz		.60
Watermelons, per doz	50	80
Strawberries, box, fancy		.07
Pears, northern, Bartletts, bx 40 lbs.		1.50
Peaches, per box	60	.75
Limes, per 100	.90	1.25
Northern apples, 40 lbs.	75	1.25
Four tier belleflower		1.25
Local, box 30 lbs		.60

Fruits; Dried.

Apricots	05	.08
Pears	07	.08
Peaches, per box	40	.75
Peaches, per box	40	.50
Local belleflower, 30 lbs		60
Northern apples, 40 lbs	50	75

Poultry.

Spring Chickens	15	17
Hens, Ni. 1, per lb	14	14½
Ducks, per lb	12	13
Turkeys, per lb	16	.17
Turkeys, cold storage	22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	**4 00**	**5 00**

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa, large bales	10.00	12.00
Corn, Oct. delivery		1.35
Barley	1.04	1.06
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley	1.15
Bran	1.30
Feed Corn Meal	1.50
Middlings	1.45
Cracked Corn	1.45
Oil Cake Meal	1.75
Chicken Wheat	1.66
Cocoanut meal	1.50

San Francisco Markets.

Dairy.

SAN FRANCISCO, Oct. 14.—There has been a fairly steady market on butter during the week although on Wednesday a slight depreciation occurred. At the close of the day's trading prices ruled as follows:

BUTTER—Per lb:

Creamery, extras	28 @29
Creamery, good to fancy	25 @27
Dairy extras	24 @25
Dairy choice	22 @23
Store	18 @20
California Storage	24 @27
Eastern Creamery	23 @25

CHEESE—Per lb:

Cal. Creamery, mild new, extra	14 @15
Cal. Creamery, mild new, choice	13½@14
Young America	14 15½
Eastern, New York Cream, Cheddars and flats, new	14½@16

Eggs and Poultry.

The situation in the market for Ranch Eggs was without material change, offerings continuing very light and holders being able to secure any reasonble price they had a mind to ask. While quotations show an advance of a point some holders of selects demanded from ½c to 1½c in advance of the top quotation and secured it without difficulty. There was a lively trade in storage Eggs and the market was firm at quotations, with a strong upward tendency apparent.

EGGS—Per doz:

Ranch, selected, large	46 @47
Ranch, good to choice	41 @45
Store	Nominal
California Storage	27 @30
Eastern	23 @28

Fruits and Vegetables.

The general vegetable market remained about the same during the past few days with the exception of potatoes which show a decline.

APPLES—Per box, common to choice, 25@85c; fancy, $1@1.25; extra, $1.35@1.50.

PEACHES—Per box, 90c.

PEARS—Per box, Bartlett, $1@1.25; Winter Nellis, 75c@$1.25; other varieties, per box, 40@85c.

PRUNES—Per box or crate, nominal.

FIGS—Per box, $1.50@2.50.

CANTTLOPES—Per crate, 75c@$1.50.

NUTMEG MELONS—Per box, 35@75c.

WATERMELONS—Each, 5@15c.

TABLE GRAPES—Per small box, 25@50c; crate, 40@65c; Isabella, 50@65c; large box, 75@$1.25, as to variety; Wine Grapes, per ton, Zinfandel, $17@22; Mision, $15@18; White, $12@15.

POMEGRANATES—Per box, 50c@$2, as to size of box.

QUINCES—Per box, 40@60c.

BERRIES—Per chest: Strawberries, Longworth, $5@9; large varieties, $2@5; Raspberries, $4@6; Huckleberries, per lb., 8c; Cranberries, per bbl., Cape Cod, $9@9.50; Oregon, per box, $2.50@3.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, nominal; Valencias, $$1.25@3; Lemons, $1@3; extra, $3.50. Grape Fruit, $1.75@2.25. Limes, $4@4.50.

VEGETABLES—Tomatoes, per box, 25@50c; Green Peppers, per box, Bell, 50@75c; Chile, 35@50c; String Beans, per lb., 2@3c; Wax, 2½@3½c; Lima, per lb., 3½@5c; Green Peas, per lb., 2½@3½c; Egg Plant, per box, 30@50c; Summer Squash, per box, 35@50c; Cucumbers, per box, 35@50c; Garlic, per lb., 3@4c; Okra, per box, 50@75c; Marrowfat Squash, per ton, $10@12.50.

ONIONS—Yellow, per ctl., 60@85c.

POTATOES—Per ctl: River Burbanks, 50@75c; Early Rose, nominal; Salinas Burbanks, $1.25@1.50; Oregon Burbanks, 75@85c; Sweet Potatoes, $1.35@1.40.

Dried Fruits, Nuts, Etc.

San Francisco Chronicle of the 14th says the market for Dried Fruits continues on a firm basis, but prices show no further improvement, although they rule strong for all descriptions. Apricots have been closely cleaned out of first hands and are strong at full figures. Pears are firm under light offerings, while Peaches are steady, stock being fairly liberal. Keen interest is still displayed in Prunes and large deals have been closed at full rates. Raisins are moving freely at the established rates. Nuts are in better demand and a 14c rate is expected to be the local jobbing price for new Walnuts upon their arrival. Chestnuts are more plentiful and slightly lower.

DRIE DFRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 5@6c; Sun Dried, 3½@4c.

Apricots—Royal, fancy, 9½@10c; choice, 8@8½c; Moorparks, choice, 10@12c.

Peaches—Choice, 5¼@6½c; fancy, 8½@9c. peeled, in boxes, nominal.

Pears—Choice, 6½@7c; fancy, 8½@9c.

Plums—Pitted, 5@7c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 3@3¼c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Black, 4@4½c.

NUTS—Per lb: California Almonds, hard shells, 8@8½c; soft shells, 8@8½c; soft shells, 10@11c; paper shells, 11@12c; standard, 9@9¾c; Pecans, 11@13c;Pinenuts, nominal; Peanuts, Eastern, 6@6½c; do, California, nominal; Brazil, 10@11c; Filbert, 10@11c; California Walnuts, soft shells, No. 1, 13½c; do, No. 2, 11c; hard shell No. 1, 13c; do, No. 2, 11c; Hickory, nominal;; Chestnut, California, 10@15c; Cocoanuts, $4.50@5 per hundred.

Live Stock.

Hogs were in increased supply and under a limited demand values for all grades showed a fractional decline. Prices for Calves were also off a fraction, as heavier offerings were available. Other kinds of Live Stock were as previously quoted, with a steady demand noted, especially for A1 lots, which easily brought full prices.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6½@7c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb., live weight.

HOGS—Per lb: Hard grain fed, weighing alive 140 lbs. and over, 5½@5¾c; weighing under 130 lbs, 5¼@5½c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

FRESH MEATS.

Business in the market for Fresh Meats was purely of a routine character yesterday, but as supplies were not excessive the appearing prices were well sustained and first quality offerings sold well up to the maximum figures. Values for Mutton and Lamb show a fractional decline.

BEEF—Per lb: No. 1 Steers, 7@7¼c; do, second quality, 6½@6¾c; No. 1 heavy, 7@7¼c; thin, 6@6½c; No. 1 Cows and Heifers, 6@6½c; second quality, 5½@6c; thin, 4@5c.

VEAL—Per lb: Heavy, 6½@7c; light, 86c@9½c; poor Calves, 6@6½c.

MUTTON—Per lb: Light Wethers, 8@8½c; do, Ewes, 7½@8c; heavy Wethers, 8c; Ewes, 7@7½c.

SPRING LAMB—Per lb., 8½@9½c.

DRESSED HOGGS—Per lb., 8½c.

Retail quotations for Meats, as furnished by the San Francisco Retail Butchers' Protective Asociation, are as follows:

BEEF—Prime Roast, 15@18c; Porterhouse Steak, 18@22½c; Tenderloin Steak, 15@18c; Sirloin Steak, 12½@15c; Top Round Steak, 12½c; Beef Stew, 10c; Corned Beef, 8@10c, Soup Meat, 4@10c.

MUTTON—Leg, 15c; shoulder, 10@11c; Stew, 8@10c; Prime chops, 12½@20c.

SPRING LAMB—Chops, 25c; Hindquarter, $1.25@1.50;; Forequarter, $1@1.25.

PORK—Loin Roast, 15@18c; Leg Roast, 12½@14c; Shoulder Roast, 10@12½c; Chops, 15@18c.

VEAL—Loin Roast, 15@20c; Shoulder Roast, 12½@15c; Chops or Cutlets, 15@20c; Stew, 12½@15c.

These prices do not cover the cheapest grades, as it is impossible to quote regular prices on them.

Hay and Feed Stuffs.

HAL—Prices on Hay, per ton: Wheat, $13@$16.50; Wheat and Oat, $12.50@15.50; Oat, $11.50@14; Barley, $10@13; Clover, $9@10.50, Alfalfa, $9.50@12; Stock, $8.50@10.50.

STRAW—Good to choice, per bale, 50@65c.

FEED CORN MEAL—Choice grades, per ton, $31@32.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26.50@29.

BRAN—Per ton, $22@23.

CRACKED CORN—Choice quality, per ton, $31 50@32.50.

OILMEAL CAKE—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BEANS—Prices per ctl: Large Whites, $2.50@2.75; small, do, $3.15@3.35; Pea, $3.25@3.50; Lima, $3.25@3.35; Red, $2.90@3; Pink, $2.40@2 70; Bayo, $2.50@2.75; Blackeyes, $2.65@2.75; Red Kidneys, $4.25.

Hops.

The price for new crop is 21@23c per lb, according to quality.

Wool.

Fall clip, per lb.: California, Plains, 8@10c; Foothills, 10@12c; Middle Country, 11@13c; San Joaquin Lambs', 9@11c; Northern Free 11@12c; do, Defective, 10@11c; Humboldt and Mendocino, 1214c; Nevada, 13@15c; Oregon, 17@19c.

Eastern Markets.

Grain and Produce.

CHICAGO, Oct. 14.—Favorable weather for the maturing of the corn crop in the corn belt had a tendency to make an easier and somewhat indifferent market for that cereal at the opening of the day's trading.

Wheat also showed an easier movement, December ⅛ to ¼ lower, at 79⅛@79¼. Trading was dull the early part of the session, and prices fluctuated within a narrow range. The tendency was toward a lower level, however, influenced by the small demand for cash and the lower prices in Minneapolis. Later, a fair rally occurred on buying by traders, who had sold short early, which sent December up gradually to 59½. Closing prices were near the bottom, with December ½c lower, at 78⅞, after touching 78¾@78⅞. The late weakness in wheat affected corn, and the close was only a trifle higher than yesterday. December being up ⅛, at 45¾, after selling between 45¼ and 45¾.

Grain Movements.

Articles—		Receipts.	Shipments.
Flour,	barrels	43,400	18,400
Wheat	bushels	209,600	94,300
Corn,	"	425,300	72,300
Oats,	"	415,400	222,600
Rye,	"	13,400	3,600
Barley,	"	248,400	21,300

Chicago Live Stock.

CHICAGO, Oct. 14.—Cattle—Receipts, 24,000; including 700 Texans; 4500 western; steady to 10c lower; good to prime steers, 5.10@5.85; poor to medium, 3.50@3.75; stockers and feeders, 2.25@4.15; cows, 1.40@4.50; heifers, 2.00@5.00; canners, 1.40@4.50; heifers, 2.00@@... 5.00; canners, 1.40@2.50; bulls, 2.00@4.25; calves, 2.25@7.35; Texas-fed steers, 2.75@3.75; western steers, 3.00@3.40. Hogs—Receipts today, 14,000; tomorrow, 70,000; to to 15c higher; mixed and butchers' 5.45@6.20; good to choice heavy, 5.55@6.10; rough heavy, 5.00@5.50; light, 5.40@6.10; bulk of sales, 5.40@5.85. Sheep—Receipts, 25,000; sheep and lambs steady; good to choice wethers, 3.30@4.25; fair to choice mixed, 2.00@3.00; western sheep, 2.25@4.75; native lambs, 3.50@6.00; western lambs, 4.00@5.15.

California Dried Fruits.

NEW YORK, Oct. 14.—The market for evaporated apples was quiet, with futures firm, but spot supply rather easy at quotations. Common, 4@5; prime, 5¼@5½; fancy, 6¾@7. Prunes are in good inquiry at from 3¼@7 for all grades. Apricots are firm, at 9¼@9½ for choice; 10@10¼c for extra choice, and 11@12½c for fancy. Peaches are quiet but steady; choice, 7¼@7¾; extra choice, 7¾@8½; fancy, 9¼@10½.

CITRUS MARKETS

ORANGE AND LEMON MARKET.

SEASON'S SHIPMNETS.

Total cars citrus fruit 22,223, of which 2615 are lemons.

Total last season 17,250 of which 1726 were lemons.

Thomas R. Geary, U. S. vice-consul, Malaga, Spain, under date of September 10, reports the raisin market as active.

AUCTIONS.

Limited sales at auction points again characterized the eastern market this week. There was some demand for the best grades of oranges, but nothing to give extraordinary tone to the market.

NEW YORK, Oct. 8.

C. C. U., Santa Ana, Wild Flower, Valencias, $3.35.

NEW YORK, Oct. 9.

A. C. G. Fruit Exchange. Blue Seal Valencias $4.60. Red Shield $3.20. Green Crown, $2.45.

NEW YORK, Oct. 12.

C. C. U., Riverside, Gypsy Queen Valencias, $3.25, Daisy $2.85, Our Favorite Grape fruit 12 per cent. decay, $1.55.

PHILADELPHIA, Oct. 12

Market advancing and strong on Valencias.

D-M. Fruit Exchange, Violet Valencias $4, Primrose Valencias, $3.50.

BOSTON, Oct. 12.

Market steady.

Covina Fruit Exchange. Butterfly Valencias 10 per cent. decay, $3.55. Holly 10 per cent. decay, $3.

PITTSBURG, Oct. 12.

Market steady.

S. A. Fruit Exchange. Foothill Valencias, $2.90. Special $3.35.

As to raisins, prices by the California Raisin Growers' Association on standard brands, 1903 crop, f. o. b., at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb. box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.55; Two-crown London Layers, $1.45; Four-Crown Standard, loose, Muscatels, 7c per lb; do, Three-Crown, 6½c; do, Two-Crown, 6¼c; Seedless Muscatels, 5c; do, Seedless Muscatels, floated, 5¼c; Seedless Standard Sultanas, 5c; Thompson Seedless, standard, 6c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz. per lb., 7¾c; choice, 7½c; fancy, 12 oz., per pkg., 6⅜c; choice, 6¼c; bulk, per lb., fancy, 7½c; choice, 7¼c.

A handsome High School building of the Mission style of architecture is just being considered at Colton.

An electric car was recently run in Germany, as an experiment,, 125 miles an hour, with fourteen persons aboard.

At a late meeting of the grange at Healdsburg Congressman Bell's proposed Pure Wine Bill was endorsed.

The Moffat Bros., of Rialto, inform us they are about to double the capacity of their packing plant and reach out for business in territory not now exploited.

It is announced that the United States government will soon introduce into this country a Japanese salad-plant, called. Udo. The Udo is as crisp as celery and combines the taste of celery, lettuce and pineapple.

Mendocino county this year produced 7899 bales of hops, or 232 less than last year.

An enthusiastic citizen of Fresno makes the following claim: "Twenty-five years ago our town site was a sheep pasture. Now we have 10,000 inhabitants; a score of packing-houses, several fruit canneries and wineries. We have vineyards and olive groves, and orchards of figs, almonds, apricots, peach, pear, prune, orange, lemon, etc., etc. None of the famous fruit and vine districts of France or Spain are more worthy of a visit."

SUMMONS.

No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.

(Seal) By C. O. Winters, Deputy Clerk.

SUMMONS.

No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.

By C. O. Winters, Deputy Clerk.

Griffiths, Munson Briquette Co.

TELEPHONES { MAIN 806 / HOME 806

Office, 128 Hellman Blk. Works, Atlantic St. and Santa Fe Tracks

Los Angeles, California

Orchard Briquettes are in size 12 inches by 6 inches and 5 inches in thickness, weighing about 9 pounds each. They are to be burned in the orchard on the ground, requiring nothing to contain them, and being entirely consumed unless intentionally extinguished. Two or three are inclined towards each other, forming a pyramid, leaving free vent beneath for air passage, at which point the torch should be applied. No kindling is required. It will burn long enough to meet the requirements of the usual cold night. In orchards where some degree of protection is afforded by wind breaks or trees being large and close together, two Briquettes are used to the fire, twenty-five fires to the acre, one ton being sufficient to protect four acres for one night. In open and more exposed groves we suggest using three Briquettes to the fire or one ton to three acres for one night's fires. It is best to use the extra Briquette on the first two rows of fire on the exposed side of the grove.

Briquettes are impervious to water; and when placed in position where they are to be burned, if it should rain, the Briquettes shed the rain and are in condition to light at any time, and burn as freely as if not rained on. They should not be exposed to hot sun.

Price $12 a ton f. o. b. Los Angeles. Present freight rate same as coal. We hope to have a lower rate based on rate for fertilizers made, and are working for same.

Griffiths, Munson Briquette Co.

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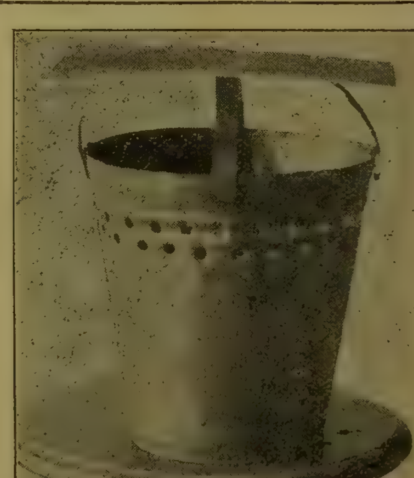

SAFE AND SURE METHOD OF PREVENTING FROST

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NO SMUT
SIMPLE AND EFFECTIVE

Note the following extracts written by prominent fruit growers:

"If growers would generally place pots in their ranches, 25 pots fired per acre, in any frost we have had, would thoroughly protect the trees and fruit. I am sure many more will put in the oil pots next winter."—D. B. Bailey, Rialto, San Bernardino County.

"I am perfectly satisfied with the results. It furnishes sufficient heat to prevent frost damage during periods of cold weather and does not smut the fruit or trees. I find it even possible with these devices to carry the winter blossoms in my lemon grove through for summer crop."—N. W. Moodey, Glen Ellen Orange and Lemon Grove, Centerville, Fresno County.

"During the recent frosts the oil pots saved our crop except a few on the outside of the ten acres of Valencias."—W. R. Wood, Exeter, Tulare County.

"I found that, although the temperature fell to 20 degrees outside the protected area on January 16th, and again on February 14th, 40 pots to the acre gave me all the heat I needed for protection. I estimate that the crop saved on the Camilla orchard this season is worth $20,000. The fruit is healthy, with fine flavor, weight and color."—N. G. Simms, Camilla Orange Grove, Lindsay, Tulare County.

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THE FROST PREVENTION CO.

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Coulson's Egg Food

What It Is and What It Is Good For

It Makes Hens Lay Eggs When Eggs Are High

Times are getting so that the poultry business is like every other business. The man who doesn't understand his business will fail, and the poultryman who is not willing to learn how to make his hens lay will either fail or have a very poor living if he has to depend upon his hens to keep him. If one expects his hens

to lay well they should be fed well; that is, the right kind of feed, the feed that the hens can easily digest and turn into eggs. Every egg contains exactly the same kind of material, and the nearer we furnish the hen with exactly the right material in the right proportion and fix it so that it is easily digested, the more eggs the hens are likely to lay. Thousands of hens have little eggs of which only a few are laid because they do not have the proper food. Some things used in making Coulson's Balanced Ration Egg Food are: Best heavy oats ground into meal. These are then bolted over screens to get out as much of the hulls as possible (these hulls are sold for cow feed.) The fine oat meal makes the best kind of feed for eggs. Also use ground Chevalier barley, known as beardless barley. Also shorts and middlings, pea meal, cottonseed meal, pure flax seed meal, fresh raw ground bone, pure deodorized, dried beef blood ground fine, fine hen's teeth, granulated charred bone, powdered willow charcoal, and a little red pepper, ground ginger root, ground Foenugreek seed, iron tonic, etc. All weighed out in the right proportions and thoroughly mixed together ready to feed. All you have to do is to stir up with water and give a little green stuff of some kind.

This is a very rich mash food and it is only necessary to feed it once a day, either in the morning or at noon, and at night feed whole grain.

There is some fine grit mixed with this food to keep the hens from eating it too fast and to help digest it. This is certainly one of the very best rations for egg production and the cost is not much.

One of our customers has about 2400 hens. He feeds them twice a day only. One meal in the morning he gives them all they will eat of Coulson's egg food and at night he feeds them whole grain. 140 pounds of Coulson's Egg Food is all it takes to feed these 2400 hens. 140 pounds of this food costs about $2.75; so the cost is less than 15 cents a hundred to feed the hens all they can eat of it for one-half a day's rations. The egg production of this flock has increased an extra 300 dozen of eggs this month.

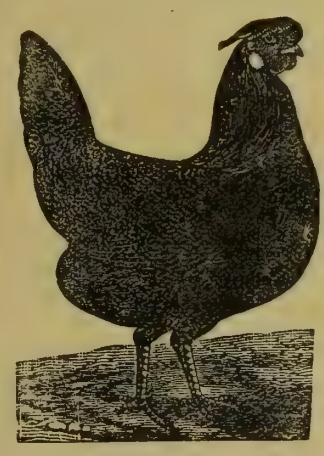
Another man has 600 hens and 100 pounds of this food lasts four days, and the hens have a full meal of it once a day. This man feeds three meals a day but for the one meal of Coulson's Egg Food the cost is less than nine cents for 100 fowls.

A hen cannot eat as much in weight of Coulson's Egg Food as she would of ordinary food, because Coulson's Egg Food is so rich and more substantial and so it is really cheaper than any other kind of food that you can feed.

And the hens will be healthier and produce more eggs during the year. Remember this feed is so rich that it

is only necessary to feed it as a mash once a day.

Nothing venture, nothing gain! Don't be afraid to try it. You have to buy some kind of food and a few cents more spent on a sack of good rich food



may make your hens lay a great many more eggs.

Now, when you start feeding this food, please stick to it for at least two months, and by that time you will be convinced that it is the best food for egg production. Many of our customers started feeding the food last fall and kept it up. Their hens laid well all winter, some hens averaging five eggs a week each. One flock of 200 hens laid from 8 to 10 dozen eggs a day. Another flock of 500 hens laid 200 eggs a day through the winter season.

Give the hens a little help if you want the hens to help you by laying lots of eggs, why not help them a little by giving them good, rich food like Coulson's Egg Food?

One meal a day of Coulson's Egg Food well be a great help to the hens because it will furnish them with a lot of good egg-making material.

You can produce eggs for 12 cents a dozen by feeding Coulson's Egg Food, and you can sell them for 45 cents a dozen. The more eggs the more money you will have.

A hen is simply a machine. Keep her in good order and feed her properly and she will make you a profit of more than a dollar a year for each hen properly managed. Better get a ton of this food right away and get the hens down to business.

A ton of this food will cost you $33, f. o. b. Petaluma, and it contains more egg-making material than forty dollars worth of cheap feed.

Cheaper to steady customers.

200 tons a month now being used.

The price of this food at Los Angeles is $2.25; in Santa Cruz is $2 a sack; Sacramento and San Jose, $1.85 a sack; Oakland, Santa Rosa and surrounding towns, $1.75 a sack; in Petaluma, 5 sack lots, $1.55 a sack. If you are living at a distance and your feed dealer hasn't got it, write to us and we will send it by freight.

Feed Coulson's Balanced Ration Egg Food and your hens will lay. It pays others to feed it! Commence now and fed the hens Coulson's Egg Food, 175 eggs a year from each hen. It beats all how it makes hens lay.

Illustrated Catalogue and Poultry Account Book Free to Poultrymen. Sample of Coulson's Little Chick Food Sent Free for the Asking.

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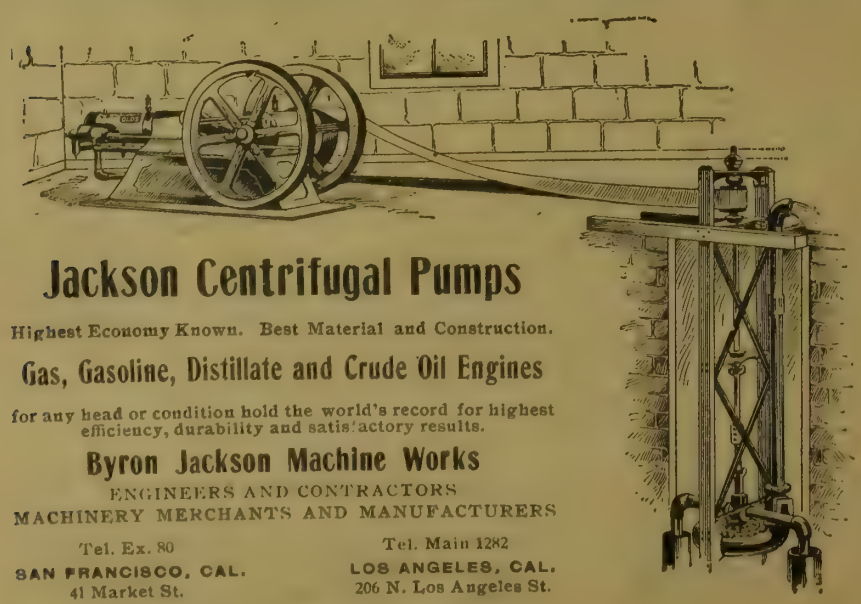

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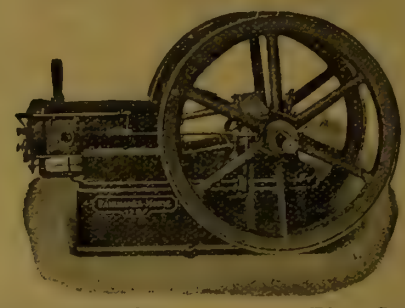

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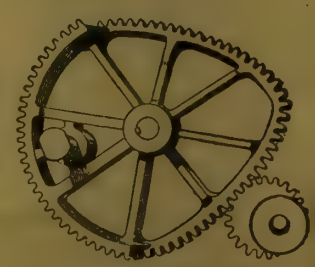

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COACHELLA WELLS—There are about 200 like this in the valley.

The Yeas and Nays of Citrus Culture

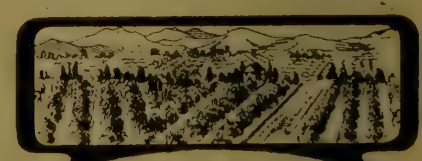
"Citrus Trees for the Million—a veritable sea of nursery trees in rows and going to intending planters everywhere."

1. A Plot of Citrus Trees on our Home Grounds. 2. A Daily Scene during the Shipping Season at San Dimas.

If you plant inferior trees, it makes little or no difference how fine your location is for citrus fruits; nor is it of much consequence if your soil is good and your water supply for irrigation ample, because badly-grown, weak and untrue-to-name nursery trees can never grow a profitable orchard, even under the most favorable conditions. An experience of upwards of twenty years in the growing of citrus trees exclusively has demonstrated this fact so forcibly that we never buy trees from other growers, but sell only what we actually grow and warrant to be the best that skill, superior soil and climate can produce. That this policy—though at times losing an order because we happen to be shy on certain varieties—is a winner is forcibly attested by the fact that the San Dimas Citrus Nurseries are now the largest growers of orange and lemon trees in the world. "Value for value, and the best is none too good for even the small planter," are two principles from which we never deviate."

We now supply many of the best planters in all sections of the world where citrus fruits are grown with their nursery trees, and stand ready to serve many more in the same way. Orders going to Italy, Australia, South Africa, Porto Rico, Cuba, Mexico, the Philippines and the home trade all give evidence of satisfaction with our trees and methods of business. In view of this fact, may we not supply your wants also? Our booklet on the "Yeas and Nays of Citrus Cultvre" tells all about growing an orchard and also how and why we do and get business. A copy is yours for the asking; write for it today.

Our Business is a Growing One and Yours Will Be if You Plant Trees Grown by Us.



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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 17 LOS ANGELES, CAL., FRIDAY, OCTOBER 23, 1903 Subscription $1 a Year

THE COACHELLA VALLEY

In a recent issue, we gave a short article on the Imperial Valley. Of a trip through it by a number of newspaper men of Southern California. At the banquet at Imperial, tendered the pencil pushers, Irving H. Fay of Coachella spoke of the Indio-Coachella-Walters section as being the handle of the great "frying pan." This was with some hesitation, which implied apology, but the suggestion was so pat that it took all attending some little time to recover.

In fact there is one thing admirable in the residents of the "desert." They make no apology for the weather. There is no "exception, the like of which we never had before." When asked if it dosen't get awfully hot there, they say: "Yes sir, we have some nice growing' weather here. That's why we make money."

That money is made in both the Imperial and Coachella sections has ample proof. Corn, alfalfa, stock, raisins and melons. Melons is where the Coachella section is banking for reputation as a money maker. And when we speak of Coachella, the same condition prevails, largely, at Indio, Thermal and Walters.

This section is different from Imperial in this, that instead of the Colorado river furnishing the source of irrigation, the water is all secured from artesian wells. These wells vary from 400 to 600 feet deep, are sunk in 3 to 5 days at a cost of about one dollar per foot, and afford sufficient water to irrigate from 15 to 100 acres. The soil varies, some being quite sandy, others heavy loam, some 'dobe.

Both Mr. and Mrs. Fay of Coachella accompanied the excursionists on the round to Imperial and on the return, and stopped at Coachella, aiding the local committee in receiving the visitors. Breakfast was served at the hotel and a visit made to the office of "The Submarine," "the most low-down newspaper on earth," because it is published 76 feet below sea level. Notwithstanding, the undertow has carried the Submarine so far below the surface, it is a breezy little sheet.

The whole party was taken in carriages and wagons to the alfalfa fields, asparagus "patches," but in the melon fields, all we could do was to look at the dead vines and swap stories, as to how we skinned both shins clambing the old rail fence out of farmer Jones' melon patch, down in the corner of the corn field, 'way back in the states, in the '60s.

No, Coachella melons are the proverbial early bird. They catch the earliest market of any melon in the United States. Consequently, they are money getters. In June the work is on, and the eastern gardener is just nicely thawed out, ready for spring work, when California melons are in the market.

The acreage in cantaloupes in '03, was 240 acres, which yielded a total of 18,694 crates, or 50 carloads. Of these, twenty-four cars were snipped to Chicago, eleven to San Francisco, six to Los Angeles and others scattering.

Watermelons proved profitable the past year, but as a rule, the cantaloupe is expected to be the money bringer. The coming year's acreage is expected to largely exceed last year.

For properly packing or crating the melons, a large packing house has been erected at Coachella, and many are also packed on the ranches.

The ranches vary in size from 20 to 160 acres, but the greater number are from 20 to 40 acres. The returns may aggregate $250 per acre, though all will not reach that amount.

The method of packing is co-operative, much the same as the Southern California Fruit Exchange. The growers own their own packing houses, and the entire business is co-operative. That is, the business at the producers end. The marketing is as yet, done through commission houses.

But to return to our story of a ride. The melon fields were bare, and plans were being made for an early planting next year. One of these steps, is the sinking of new wells, which is now in operation. This is by the hydraulic method and is very rapidly done. Water under pressure is forced down through a two or three-inch pipe which, under great pressure, forces the loose loam soil up the outside of the pipe and when water is once struck, the well is cased. Some of these we passed were flowing large heads, while others in the upper part of the valley, required pumping. A number of most thrifty vineyards were passed, but as is the case with melons, the early table grape is the favorite. The Thompson Seedless is most frequently planted.

Sweet potatoes are the latest favorite we saw a few fields of them. The largest growers are the Goth Bros. The quantity grown per acre is large, and the quality is of the finest.

At the packing house, where the ladies of Coachella made a spread for the party, on its return, there were a number of exhibits of potatoes and other products. Better, they (the potatoes) were served at the table. The spread was richly enjoyed and a vote of appreciation tendered the ladies and people of Coachella.

One feature of the exhibit was a cottonwood tree, planted last March, as a cutting the size of a lead pencil and twelve inches long, which is now a large tree, over nineteen feet in height.

Coachella Melons
The returns from cantaloupes in 1902 were $55,000

Packing Cantaloupes

The Holstein-Friesian Association of America has empowered a special committee consisting of W. J. Gillett, Rosendale, Wis.; F. B. Fargo, Lake Mills, Wis.; M. E. Moore, Cameron, Mo.; W. B. Barney, Hampton, Ia.; H. B. Daggett, Lake Mills, Wis., and Robert Maguire, St. Louis, with authority concerning the association's special prizes on Holstein-Friesian cattle at the World's Fair. The committee has notified Chief Coburn that $1,472.50 has been set aside for this purpose, arranged with special attention to the encouragement of smaller breeders of Holstein-Friesian cattle to exhibit at St. Louis.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

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Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Oct. 23, 1903

Circulation this issue 9,000

Tulare had a great time on Saturday last, the occasion arising from the burning of the San Joaquin Valley irrigating bonds. Governor Pardee, who made the address of the day, in the course of his remarks said: "I am glad to bear to you as the Chief Executive of this state the sympathy of the entire people of California in your hour of deliverance. As the smoke from the burning bonds goes soaring up into the blue dome that arises over us a whole state rejoices with you at the final extinguishment of the public debt your people so bravely shouldered, and so honorably repaid." This incident is but one of many which marks the growth and financial development of California.

Gradually a few good roads are being made in Southern California—but oh, so gradual. These are the crying need of the state. Without them we are poorly prepared to show our beautiful country to advantage. With them we will capture ten times what they cost in the wealth which they will attract in the tourists that settle in the state.

Strikes during the current year have cost eight of the leading cities of the country the enormous total of more than $42,000,000. Los Angeles, San Francisco and other California towns are largely represented in the loss estimate.

Forest fires are becoming too frequent for comfort of mind or property. The loss to parks alone in Los Angeles county will reach into thousands of dollars.

OUR TREATY WITH CHINA.

A treaty of very considerable importance has just been closed at Shanghai, known as the American-Chinese treaty, by the provisions of which our commercial business will be greatly enlarged. The treaty has received the imperial decree and only awaits ratification by the United States. The principal points of the treaty are briefly as follows:

First the settlement of the long-vexed question of internal taxation in China.

Second, recognition of Americans, right of residence throughout the empire for missionary work.

Third, protection of patents, trademarks and copyrights.

Fourth, mining rights.

Fifth, opening of new localities to international trade in the heart of the empire in which the United States has commercial interests.

Sixth, the right to carry on trade, industries and manufactures in all parts of China.

The negotiations which have been concluded will give this government almost an open door to trade with China, at least it will augment our commerce to such an extent as to add many millions to our export business. The cultivation of friendly relations with China is the immediate outcome of our position taken at the time of the Chinese war on its foreign population, and when the powers were only restrained from proceeding to dismember China and to apportion its territory, by the refusal of this government to join in the scheme.

Great satisfaction is expressed at Washington at the outcome of the negotiations for it makes certain that the two ports in Manchuria will be opened to the United States, no matter what the outcome as to the negotiations for the evacuation of that territory by Russia may be. The assurance that Russia had previously given, and to which this government would insist upon adherence, is that the treaty arrangements made with China covering Manchurian ports will be binding upon the Russian government.

Minister Conger is the recipient of most flattering congratulations by the authorities at Washington for the erudite manner in which he has accomplished this important work without exciting the opposition of competing powers. The direct benefit to California will come from its increased ocean traffic. Ports of entry along its coast will feel the stimulus of trade as commercial expansion is consummated.

TO DO AWAY WITH BOILERS.

Scientists and engineers are much interested in a recent invention by which the engineering world is to be revolutionized, and in future no boilers are to be used to generate steam. Instead, a steam generator will supply the steam.

The advantages claimed for the invention are that it is nonexploding and simple to operate. In instantaneous vaporization of water, whereby the fluid is flashed into steam, the generator has decided advantages over the present steam engines. In contrast with boilers, the invention does away with safety valves, steam gauges and water glasses. There is no storage of steam, as every ounce is used as fast as it is generated. Another advantage over the boiler is that Smith's device is compact and requires less than half the amount of space. A great saving in the amount of fuel is promised.

TRADE AND INDUSTRY.

The past few days have marked some fluctuation in the pulse of the commercial world. The failure of two or more banks on the Pacific Coast and the collapse of two Baltimore concerns, indicate that we are about to witness the liquidation of unsound trusts which have been promoted without a firm basis.

It may be expected that in the closing months of the year we shall witness the failure of more trusts, but it does not indicate an unsound financial condition for the country, nor does it portend a general crash. No sound institutions will be affected, nor will the general public suffer from this liquidation.

The Secretary of the Treasury reports the national banks as in good condition, and the state examiners make the same declaration as to state banks. The two banks which failed on this coast were really branches of the Mexican concern by whose collapse they were compelled to liquidate their business.

The only effect the flurry in the east will have on the country will be to make banks more cautious about making loans. Securities will be more carefully scrutinized and ventures in stocks will be curtailed.

So far as trade is concerned there is no diminuation in its volume. Our export demand keeps up a healthy output, and our merchants in trade centers report a splendid fall and winter call for staple goods.

The railroads are preparing for the greatest haul in the history of transportation business for the crops, in general, were never heavier nor have farmers witnessed greater prosperity.

In short, the country is all right. The people will not suffer from the failure of unsound institutions because the country is prosperous. The water will be squeezed out of the trusts and the holders of their stocks will be hurt, but these holders reside in the big cities and their loss will be personal; the public will not be the sufferer. Between the owners of trust bonds and stocks, it is a game of freeze out, and the survival of the fellow with the longest purse, but in this game of "dog eat dog" the people simply look on, and so long as they are not injured will take little interest in the fate of the stock gambler.

Trusts are extending to thieves in the smaller lines as well as to thieves in greater spheres. The latest is a housebreakers trust known as the Burglars' Aid Association, which has a regular code of signals and is said to be as thorough an organization for mutual protection as Morgan or Hill ever promoted.

The decision reached by the Alaska boundary commission is generally in favor of the American contention, with the exception of the one relating to the Portland canal. To Canadian commissioners refused to sign, but their action is valueless for the reason that a majority of the commission signed, which validates the finding.

One advantage in keeping the currant and gooseberry bushes well mulched, is that it lessens very materially the amount of cultivation necessary. A good mulch applied, with the soil in a good tilth, will keep down the weeds, keep the soil mellow, and aid materially in retaining moisture. About the best mulch to use in this instance is coal ashes.

STILL OMINOUS.

The war cloud hanging around the horison in the East does not present any brighter lining. Some days it appears as if the storm will blow over without serious damage, and then something comes up to change the aspect of things and it looks as if war between Russia and Japan would surely break out within a few days. So the scare has been on and off balance for the past ten days. One thing which statesmen think may change the entire status of affairs, is the attitude assumed by the United States as to the maintainance of its treaty rights in the territory coveted by Russia. That power will hardly cross purposes with this country, when by doing so it will break the friendship of many decades. Especially will it not do so when behind the protest of the American government stands plucky Japan ready to fight merely because she wants to whip Russia—and thinks she can. If the United States demands of Russia that she abandon her ambition to control Korea, war will be prevented. This government holds the key to the situation.

The President has issued a proclamation convening congress in extraordinary session November 9th, for the purpose of discussing the commercial convention between the United States and Cuba.

The Fresno district farmers' institutes, under the direction of the State University, will be held at West Park, November 5th; at Oleander the 6th, and at some point in the district not now designated on the 7th; W. R. McIntosh of the Valley Farmer, is pushing the work of arranging for the institutes, with much vigor. He will make these meetings a splendid success.

BY J. W. JEFFREY, LOS ANGELES

PHILOSOPHY OF CO-OPERATION.

The Cultivator will present in this article some points heretofore overlooked in co-operative circles, but of business interest to every one who wishes to see the mutual fruit-selling and kindred enterprises sustained. The experiences of the past summer, especially of the later part of it, advise us that unfair criticism may jeopardize even as great an institution as the California Fruit Agency, for such criticism may induce enough people to accept its tendency to overturn the plans of the great majority so carefully worked out for the good of all. As a basis for the following remarks it may be stated that the agency has been held to account for not selling fruit at a figure as high as that obtained in other years. The answer to this unfair attack has been the allegiance of 80 or 90 per cent of the coming citrus fruit crop, yet a few are standing out for reasons they are unable to explain or the co-operating sellers to understand.

It is a principle in commercial life that it is easier to buy than to sell. If Mr. Jones wishes to buy a sack of potatoes he knows who wants potatoes and usually knows where to get them. If Mr. Smith has a sack of potatoes to sell, he does not know who wants potatoes and consequently does not know where to offer them. The product can

be seen, but the purchaser may conceal his identity as long as acquisition of the product is not a necessity. It being a far less strenuous operation, then, to buy than to sell, we can easily see why most of the agricultural syndicates of the world are purchasing societies rather than selling organizations. It requires the highest art of co-operative societies to sell and the lowest art to buy. This is the reason the Southern California Fruit Exchange and its marketing successor, the California Fruit Agency, stand as the highest type of co-operation the world has ever seen. We might enumerate a few purchasing agencies to illustrate this claim. The French agricultural associations were organized for the purpose of co-operative buying; the splendid system of co-operative stores in England were formed because the retail dealers in the necessities of life had combined to nullify the natural laws of easy buying; our own co-operative stores are so easily sustained because purchasing groceries, for example, is an easy art and the co-operative customers of these stores have merely restored the practice of making their purchases to an economic basis. No great agricultural society has found any difficutly in purchasing its farm machinery, fertilizers and farm supplies generally from any one of a score of sources which the society might select and upon the most advantageous terms to each member. It is a curious fact that the co-operative marketing features of greatest European societies are so unimportant that they are seldom mentioned. The reason is obvious, and carries us back to the theme, "It is easier to buy than to sell."

Let us look at the other side of the proposition. It is difficult to sell. It is sometimes impossible to sell fruit, often problematic and always governed by circumstances not under control of the seller. The seller is sometimes confronted with a market absolutely without demand for his product at any price in wholesale quantities. His market is always contested and therefore problematical. The circumstances of perishable product, distance from production to consumptive point, weather conditions, governing preparation of fruit and the demand for it, the purchasing power of the consumer and many other points that figure between the seller and his market, render the contrast strong between the dependence of the selling agency and the independence of the purchasing power.

Another fact that makes selling difficult when dealing with perishable products is the difficulty of delivery in merchantable form. Acceptance lies so largely with the purchaser that a sale of citrus fruits is never sure till the money agreed to be paid is actually in hand. In a dead lock over the acceptance of a car load of fruit, the outcome between seller and buyer is usually not problematical. The agency controlling a carload of oranges has no interest for the time being in any other car, while the supposed customer may have negotiations under way for the ownership of a car of apples, a consignment of bananas, or an invoice of winter vegetables, any one of which he may make as profitable to himself as the purchase of the oranges. Any way we may turn the question the buyer has the advantage. There may often be a forced sale of oranges, but rarely a forced purchase; the purchaser needs no insurance against loss for he carries that in his personal application to his business; the selling agency must bear all the risks in behalf of its members, and they are so great perhaps no insurance association would underwrite them; it is easier to buy than to sell, as demonstrated in the purchase of box material, in which every purchase is an adavantageous one to the co-operative member; not so with the sale of each carload of oranges, for reasons given in the preceding paragraphs.

The let us sum it up in broad terms that the California Fruit Agency is the outgrowth of the best thought and most profound expérience found among citrus fruit growers; that its methods are calculated to dispose of fruit at actual selling cost, with the most perfect distribution posible; that it is founded on correct principles and has come to stay. Criticism should be withheld, at least, till some other plan of disposing of the outside 5 or 10 per cent of fruit is devised other than the commission dealing the outsiders have to depend upon in the disposition of their crops.

..General Agriculture..

FOREIGN CROP REPORT.

The following report upon the crops of various foreign countries has been compiled by the foreign statistical agent of the Department of Agriculture:

World's Grain Crops.—An estimate of the world's wheat crop has been made by the Paris Bulletin de Halles. In that estimate the total yield is set down at 1,021,200,000 hectoliters (2,897,859,000 bushels), as against 1,045,700,000 hectoliters (2,967,383,000 bushels) in 1902. This year's wheat crop is thus estimated to be less than that of 1902 by 24,500,000 hectoliters, or 69,524,000 bushels, a reduction of 2.34 per cent. The bulletin credits the exporting countries with a surplus of 175,600,000 hectoliters (498,300,000 bushels) and estimates the requirements of the importing countries at 169,400,000 hectoliters (477,869,000 bushels). The Bulletin's estimate would, therefore, give a net surplus of 7,200,000 hectoliters (20,431,000 bushels). These estimates are for the crop year extending from August 1, 1903, to July 31, 1904, inclusive.

THE SUGAR INDUSTRY.

The sugar campaign at the Oxnard factory is now practically half completed, says the Sun. Sugar is going forward at the rate of eight cars per day and every thing is moving along at a lively gait. While the crop is not coming up to the early estimates, the later beets are showing up much better than the early. This is thought to be due to the late heavy rains which packed the soil at a very inopportune time for the newly planted beets. Up to the present time something like 100,000 tons of raw beets have been received at the mill and their average percentage is up to that of previous years, and the belief of the factory officials who are in a position to know is that the sum total of the season's output will prove entirely satisfactory.

WHY NOT TRY SCUTELLISTA AS WELL.

The Upland News says:

"There is a strong movement in the district of the Ontario-Cucamonga Fruit Exchange (comprising Narod, Ontario, Upland and Cucamonga) to so thoroughly rid the citrus groves of black scale that there will be no necessity any longer of washing any of the fruit. The Exchange and its associations, as well as the growers themselves, are very anxious that this cleansing of the orchards should be attended to by everybody and made complete. By so doing it is believed that the fruit, as a whole, will bring more than enough additional money to the growers to pay for all spraying or fumigating charges."

Now after fumigation or spraying get a colony of scutellista and put on the trees. Then the work yill be complete for years.

TONS OF TOMATOES.

The Orange County Preserving Company is putting up over 10,000 cans of tomatoes daily, paying $6 a ton, the price fixed early in the season. This company is also loading one carload of dried fruit and four carloads of canned goods to ship east this week. Nearly the entire output of the product of the factory goes direct to the large eastern cities.—Riverside Press.

The California Raisin Growers' Association, has given notice to packers, by circular, that after October 15th no seedless raisins will be received for conformation at prevailing prices. The object of the resolution, it is thought, is to sell out a large block of goods, as was done last year. Of course, it is to the advantage of the packers to get in before the advance takes place, and that inducement is offered to make a clean up, as it is likewise to the advantage of the association to dispose of large blocks of goods. It is estimated that a little over a third of the crop has been delivered to date, and a good deal more money has been received by the directors than at the corresponding date last year.

NEW CURE FOR MILDEW.

G. H. Malter of the St. George vineyard has a preparation for the cure of mildew which will also resist sulphur. For the benefit of those who are troubled, he tells how to make and how to apply it. Preparation consists of 5 pounds of sulphate of copper dissolved in fifty gallons of water. In a separate vessel lime milk should be made, and added to the sulphate of copper solution until the blue color of the latter turns green. In this way the copper is neutralized and does no damage to the vines. The solution should be applied with a spray in such a way as to thoroughly cover the bark of the vine. If the mildew is of the variety known as "Anaheim," which can be told by its effects in causing one side of the leaf to sear and dry up, three gallons of crude carbolic acid should be added to every 100 gallons of the above preparation. The time for the application of the preparation is in the spring, after the vine blossoms and before it comes into leaf. Growers may find this receipt a useful thing to cut out and stick in their hats.—Fresno Democrat.

A NEW BLEACH FOR DRIED FRUIT.

Prof. G. E. Colby of the Department of Agricultural Chemistry, in the University of California, is reported to have discovered what he thinks is an instantaneous bleach for dried fruit in sodium peroxide. The German trade has been finding fault with our sulphured fruit, and so have other market countries. To avoid this complaint and to make fruit uniform in color Professor Colby has been experimentioning. The German trade has made the most serious objection to resulphuring which was necessary to produce uniform appearance, and the objection being urged by a country that receives so many goods, has caused the packing firms to seek the assistance of the University of California Agricultural Experiment Station in the search for a proper substitute, which would give the fruit the color that the trade asks for, without tainting it so that it is unmarketable. Professor Colby's experiments have been followed by a number of packing companies, and these and others interested will co-operate with him in completing the work and placing it on a practical basis.

Frank Dyerchuster, U. S. consul, Hungary, Sept. 17th, says: It is expected 15,432,200 pounds (70,000 quintals) of prunes will be exported in 1903, which is 130,000 quintals less than in 1902.

An insect known as the Dakota beetle is killing the pine trees around San Jacinto. Writing of the pest Mr. Bartlett says:

"The Dakota beetle is a winged insect of about twice the size of a common house fly, and is very prolific, laying thousands of minute eggs, which lie dormant for about one year, when each hatches, producing a small worm which begins upon its birth to feed upon the bark of the large tree, and does not cease until the large tree is killed. The larva, as the worm is called, returns then to its beetle state, flies to other trees, where it deposits its thousands of eggs, and in this way perpetuates its species, and continues to devastate the large forests."

C. A. Carpenter of Pasadena has devised a simple scheme to support tree limbs, which consists of small cuts of rubber hose attached by wire, and so arranged in the tree that one limb supports another, as the trunk supports the heavily loaded branches. The rubber hose is cut in pieces about three inches long then split lengthwise into two pieces, then the rounding side made the hollow side to press against the limb. The wire connection is then made of baling wire of the proper length for each branch. The device is simple, inexpensive and Mr. Carpenter says, keeps the limbs from breaking.

SUMMER IRRIGATION.

I would like to ask a few questions for information.

Do you think that summer irrigation, say after the middle of July, is good for walnuts? I was noticing that where they are irrigated late it starts a new growth and then nearly every winter it is frost bitten. I thought perhaps that might cause a die-back from the poison of the frosted limbs. I would like some opinions in regard to it.—Mrs. Adelaide Kelley, Anaheim, Cal.

Replying to the above question the best authorities agree that if walnut trees are kept well watered throughout the year there will be no new growth to be frost bitten in the winter, and that in addition to this advantage the trees will remain dormant later in the spring, thereby escaping some of the frost danger at that time. By keeping well watered it is meant that the land must be kept moist to the depth of at least five feet all the time, whether it takes only one, or as many as five irrigations in the year. The new growth which is frosted starts after the trees have become partially dormant from want of water and are then irrigated. This is also very likely to happen when the orchard is left without the July, August or September irrigation that it may need and early rains come with growing weather in November and December.

GRAFTED WALNUTS PREFERRED

Editor California Cultivator:—Could you please give any information with regard to walnuts, seedlings or grafted nuts. If you advise grafted which would you prefer, hardshell or black-walnut root? I wish to set out some this coming spring. I am a new-comer and some advise seedling, some black walnut root and others hardshell walnut root; and would like to have your opinion. In your issue of September 25th, there is a short article on the Maynard plum. Do you know where it can be purchased in California? I wrote to Fancher Creek Nurseries, but they did not have it.—Wm. Whitehead.

Grafted walnut trees are very much to be preferred over the ordinary seedlings inasmuch as each tree will be like all the other trees in the orchard. If a good bearing variety is planted, the whole orchard will be of good bearing trees instead of having as many as 5 or 10 per cent of shy bearers, as often happens in seedling orchards.

Walnuts grafted on soft shell roots are as good as any other, except for very light sons in which the native root seems to make the best growth.

WALNUT CROP IN CHILI.

R. E. Mansfield, U. S. consul, Valparaiso, Chili, under date of August 20th, writes: "The walnut crop this year is about equal to that of last season, in quantity, but the quality is reported not so good. Careful estimates place the total production this year at 50,000 sacks, averaging about 53 kilograms or 117 pounds to the sack 2,650,000 kilograms, or 5,800,000 pounds aggregate weight.

The market price in Valparaiso this season has averaged about 28 cents, Chili currency, per kilogram, or from $14.50 to $15 per sack of 53 kilograms. (The Chilean dollar is worth 36½ cents in U. S. gold).

The walnuts grown in Chili are known as the "English" walnut and are very similar to those grown in California.

ESTIMATE OF THE CROP.

The district exchange and its associations sent out postal cards some days ago for an estimate of the crop that is now on the trees, to all exchange growers at Narod, Ontario, Upland, Cucamonga and Etiwanda. About 60 per cent. of these cards have been filled out and returned. It is desired that those who have not made these estimates, as requested, should do so at once, in order that the total estimate may be made complete at an early date. This is extremely important in making plans for the marketing of the season's crop.—Upland News.

Land and Water

BY A. J. McCLATCHIE, PHOENIX, ARIZ.

EUCALYPTS FOR HOT, DRY REGIONS.

(Continued.)

Eucalyptus corynocalyx (Sugar Gum):—Close to the Red Gums discussed in the preceding article stands the Sugar Gum as a useful tree for hot, dry regions. It does not endure as much frost as the Red Gums, but endures much heat and drouth. It usually grows more rapidly than E. rostrata, and its trunks are more even in size and straighter. In may interior situations it makes as rapid a growth as the Blue Gum.

The principal use made of the Sugar Gum in the Southwest thus far has been as an avenue shade tree. While it has its value for this purpose, it is much more useful as a source of timber. Upon account of its quick growth and the even size of its trunks, it is especially adapted for growth for posts, for telegraph, trolley and telephone poles, and for railway ties. The timber is very durable underground. when cut into lumber it warps comparatively little in drying, becomes very hard, and is useful for a great variety of purposes for which hard wood is needed. In most dry interior situations it should be set in preference to the Blue Gum.

Eucalyptus crebra (Narrow-leafed Iron-bark):—The only one of the four valuable Australian Iron-barks that will endure well the conditions in hot interior valleys is E. crebra. This useful tree does well at Fresno and endures the frosts of winter and the heat of summer at Phoenix. It makes a slow growth under such trying conditions as exist at the latter place, but at Fresno it grows fairly rapidly, having straight, tall trunks and attractive foliage. The bark is rough, deeply furrowed, and hard and persistent, like that of other Iron-barks.

The timber is hard, tough and elastic, being useful therefore for a great variety of purposes. It is durable underground, and is consequently much used in Australia for posts, railway ties and piles, as well as for bridge material, for wagon-making, and for a great variety of other technic purposes. It is worthy of extensive planting for the above uses, as well as for its beauty and shade. The only present source of plants known to the writer is the Fancher Creek Nursery, Fresno.

* * *

Conclusion:—The species discussed in this article and the two preceding ones—namely, Eucalyptus rudis, E. polyanthema, E. rostrata, E. tereticornis, E. corynocalyx, and E. crebra—are the only ones that the writer feels warranted in recommending for warm interior regions. There are a few other promising species, but they have not yet been thoroughly tested, and there is at present no source of plants for setting for utilitarian purposes.

There are two other species that have been set quite extensively, and which endure interior conditions well, that cannot be recommended for general setting. One is E. leucoxylon, a tree that endures well the frosts and the heat of all hot, dry regions. where the writer has seen it tried. But the trunks are almost invariably crooked and out of the perpendicular, and the timber is inferior to most other species. In the catalogue of one of the Los Angeles seed houses this species is listed and described as the "Victorian Iron-bark," and the same error appeared in a Los Angeles Horticultural journal recently. It would be very unfortunate, indeed, if any one should be misled into planting this species instead of E. sideroxylon, the stately, useful Victorian or Red Iron-bark. The two are very different in every respect except their flowers and seed cases. The young seedling of E. leucoxylon have opposite broad leaves, and are much given to reclining and making a viny growth; while the seedlings of E. sideroxylon have alternate narrow leaves, and grow erect and shapely. The bark of the former is smooth and white, while that of the latter is very rough and dark colored. The wood of E. leucoxylon, as the name indicates, is white and comparatively soft; while that of E. Sideroxylon is dark-colored and hard as the name (meaning "iron-like wood") would indicate.

The other species referred to as desirable for general planting is E. viminalis. It has been planted quite extensively as a Red Gum, but is decidedly inferior to the true Red Gums. While its growth is rapid, wherever it can be grown, more valuable ones can be. It is useful principally for fuel, its timber not being strong, nor durable underground. Instead of this species, the Red Gums (E. rostrata and E. tereticornis) and the Sugar Gum should be set, since they will grow in all, or nearly all situations where E. viminalis will.

* * *

IDENTIFYING EUCALYPTS.

The secretary of the San Diego Park Improvement Committee sends Eucalypt twigs bearing leaves and seed cases, stating that they came from thirteen-year-old trees that had grown in the park on elevated land without irrigation during the past ten years, and desires to know the name of the species. It is evidently E. tereticornis, but more data are essential for a more definite determination. So frequently insufficient material is received for the identification of Eucalypts that it will be well to state what is needed in order to be able to make a positive determination of many species.

The material needed for the identification of a doubtful Eucalypt is: (1) the seedling or sucker growth, (2) a section of the bark, and (3) twigs bearing (a) leaves, (b) flower buds about ready to open, and (c) mature seed cases. The seedlings of the various species of Eucalypts each have their own characteristics, and are therefore very useful in identifying them. And since sprouts, or suckers that start out from the base, or where the trees are cut or injured in any way, are during their early stages like the seedlings, and should accompany the bark and twigs whenever practicable. Unopened flower-buds are more helpful in making a determination than are the flowers, and in some cases are essential for a positive identification. The more fully developed the seed cases are, the better.

* * *

YIELD OF ALFALFA HAY IN ARIZONA.

J. E. P., Beckwith, Calif., writes asking the "approximate tonnage of alfalfa hay grown in Arizona." The number of acres devoted to alfalfa in Arizona probably lies somewhere between 75,000 acres and 100,000 acres. Much of this is pastured most of the year, only one or two cuttings of hay being made annually. When devoted entirely to hay production, the yield is four to six tons per acre. During the winter alfalfa makes little growth, and is not cut for hay; and during the heat of summer the growth is so short that if not pastured off it is cut for seed only. Two or three cuttings in the spring and one in the fall is the usual crop from alfalfa fields here.

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BERRY CULTURE.

Growing berries on a commercial scale is generally quite different from their culture for home use. Persons coming from the east must revise their ideas gained there by experience and this has lead a new subscriber to ask us to give an article on the subject.

The king of all berries is perhaps the strawberry. It is easy of culture in almost any situation but seems to do best on rather heavy soil. There is a difference of opinion as to the depth to which the soil should be plowed or spaded before planting. It is a rather shallow rooting plant compared with most fruits, but its roots penetrate deeper than its generally supposed. The advocates of shallow plowing hold that it is necessary in order to have solid subsoil that will carry the water rapidly from below to the surface where the main part of the strawberry roots are. Of course, a loose sub-soil, will not do this, but it has been our experience that after the first thorough irrigation the sub-soil becomes thoroughly packed and the water is very quickly brought to the surface. The problem has always been, "how to best stop such rapid evaporation?" Cultivation is usually practiced on large plantations, though we know of instances where water was plentiful and cheap, that it is turned on often as needed, without following up with the cultivator. This is objectionable, as the berries always lose some of their fine flavor immediately after irrigation. We much prefer deep and thorough plowing followed by a thorough soaking of the soil, after which cultivate, smooth and cultivate again before planting. Strawberry plants started thus, will do very well, and there will be no trouble in getting capillarity at work if the soil has in it any clay to speak of. Our light sandy soil will pass the water on up after such treatment.

Level planting on ridges are both practiced in all parts of California, the latter being the general way on the larger plantations. A ridge is thrown up by plowing towards what is to be the center of the double rows, two furrows on each side with a small plow being sufficient. A smoother is drawn lengthwise with the ridges, which settles them and evens up the ridges and furrows. An improvised sled with sloping sides which slant out at the bottom is a convenient tool for straightening up the sides of the ridges. If it is made about six feet long and turned upside down and drawn through the trenches, it will do the work quickly and accurately. The plants are set on the sides of the ridges, which should now be about two feet wide. Water should be turned in to settle the soil before planting as suggested above, and the plants should also be well soaked immediately after planting. If the land has considerable slope, cross ditches should be made at intervals so as to prevent washing from running the water the full length of the rows. The plants will get the water, as it soaks up on the ridges and as soon as possible after irrigation, the spaces between the ridges should be cultivated. If straw is plentiful, it may be placed between the ridges and thus mulch the surface that is wet at each irrigation. This will dispense with cultivation but unless the mulch is heavy, more irrigations will be necessary during the season than when cultivation is practiced. Straw that has been run through a cutter may be scattered on the ridges and on it the heavy bunches of fruit will rest, keeping them clean in case of a shower, which will render unsalable a large part of the crop.

The length of time between irrigations depends on the character of the soil, heavy soil retains the moisture much longer than light sandy soil. It is essential in growing first class berries, to keep the plants well supplied with moisture and they should never be allowed to suffer during the time they are out of fruit. Of course it should never happen at any time, as it is sure to injure their bearing capacity.

Level culture is often practiced when strawberries are grown between orchard trees. The same principles are followed in the preparation of the soil. When runners are allowed to take root and fill in the rows, the rows should be at least four feet apart to begin with. Cultivation after irrigation is the most practical way of keeping the moisture when level culture is adopted. Whichever way the planting is done, the irrigation water should never be allowed to run in among the plants. The soil near to them should be undisturbed if possible, as the roots come very close to the surface and besides it is difficult and expensive to work the soil directly beneath the spreading tops. After the fall crop of berries is harvested, it is a good plan to cut the tops of the plants off with a hand sickle and spray them with Bordeaux mixture. Then spread well rotted manure that has been well dried in the sun, over the entire plantation. The winter rains will leach the fertilizer out of the manure and good results will be seen in the next crop. Remember that the grubs which destroy so many strawberry plants generally get into the patch through manure that is put onto the land while still moist from the heap. Drying the manure will destroy the young grubs.

The favorite strawberries in Southern California are Brandywine, Lady Thompson and Arizona. Laxton's Noble is highly recommended by some growers, but it has not had the test that the above named varieties have had. Dollar is a berry that used to give us berries exery month in the year, both in the Sacramento valley and in Southern California. It never bears heavy crops but keeps at it. Another good quality is that it produces very few runners.

In producing new plants for new plantations, it has been found the finer fruit and stronger growing plants are obtained when the parent plants are not allowed to mature any fruit and only a limited number of sets. Cut off the end of the runners after the second set has formed. To follow this practice, it is necessary to reserve a part of the plantation for producing new plants. Only those plants that show a tendency to be prolific bearers should be used for the purpose.

Blackberries.—Abundant crops of luscious blackberries can be grown on almost any kind of land if they are given plenty of water. The land should be plowed deeply and well fertilized to give the best results and all subsequent cultivations must be shallow. If the roots, which come close to the surface are bruised or broken there will immediately spring up a cluster of shoots that will always interfere with the care of the plantation.

A plantation may be started by planting divisions of the root clump of old plants, or by roots that may be found anywhere in the patch. The best plants are secured from the divisions of crowns. When roots without the crowns are used. they may be cut into sections a few inches long and planted where the bushes are to grow. On ordinary land, the plants should be placed about four feet apart in the rows and the rows about six feet apart. In naturally rich moist land, eight feet apart each way is none too far. The best culture for a back yard or home garden, is a heavy mulch of manure, just enough hoeing to cut out the weeds, and an abundance of water.

After the bushes get up about four or five feet, the tops should be pinched off. If the plantation is a large one the topping may be done with a hand sickle. At the same time or when hoeing is done, before this time, the small shoots should be cut off. That will throw the growth into the large strong cane which will produce better fruit. The topping will prevent the bushes from getting top-heavy and cause them to throw out more lateral branches which increase the bearing surface. These laterals in turn should be tipped when they grow out a foot or two. Blackberry bushes so pruned will become stocky and hold up a big load of fruit without staking.

One of the best early varieties of blackberries is Crandall's Early, Erie is another, comes in later and is wonderfully productive. Kittatinny is a popular variety. Lawton is a late variety that will prolong the season if planted with the other named varieties. Evergreen is very much advertised but our experience prompts us to advise leaving it out of the home garden. It may do well in moist situations, but for a garden which requires much irrigation in a dry atmosphere, it will prove a failure. It is very thorny and the vine is such a rampant grower that it covers everything up within a rod of it and the berries are hardly worth picking. The thorns are so numerous and vicious that it is very disagreeable work gathering the fruit.

The Logan Berry has been the most popular berry of late years, but it is too acid for some persons, and no doubt its chief value is found in its canning and preserving qualities. For this, it is largely used and will grow in favor.

The vine is a very rank grower and must be allowed to train in a recumbent position to do its best. The fruit will not mature well if the vines are tied to a stake. The most approved method of training is to run the vines on wires or slats, two strings being necessary, the lowest about eighteen inches from the ground, the other 18 inches above that. As soon as the fruit is off, cut out the old canes and tie those which are growing, in their place. The same essentials in growing raspberry and blackberry bushes should be applied to the Logan Berry.

Cuthbert is the most popular red raspberry in this state. It does well in nearly all parts, is productive, of good color and fine flavor. Hansell is a good variety and has taken the place of Antwerp to a certain extent as an early sort. A succession of raspberries may be had by pinching the tops of a few canes after they have reached a few inches in height, when they will throw out laterals which will come into fruit later than those which make an undisturbed growth. By cutting out the canes as fast as they have finished fruiting, the vigor of the plants will be thrown into the canes that remain.

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The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A. B. C. INSECTS.
(Continued.)

We are now to pay heed to the last of the bugs. In doing so we shall have finished the last of the species that undergo complete transformation. The Crustacea, the lobster group, change not a little in their development. The young crab is shrimp-like, the older one is like the lobster, while the mature form has the short tail and is the familiar crab. The Myriapods, like the lobster group, while they do not equal the insects in the transformations through which they pass, change not a little. At first they have fewer legs, and shorter bodies. The Arachnida or spider class all remain unchanged, if we except the order Acarina or mites, which we will remember have but six legs at first, while they have eight after the first moult. All of the insects up to this time if we except the sub-order Neuroptera of the lace-wings, pass through incomplete transformations. As suggested above, the remaining insects; the beetles, the two-winged flies, the moths and butterflies, and the bees and their allies all pass through complete metamorphoses; that is the larva like the caterpillar looks not at all like the butterfly that will come from it.

* * *

FAMILY ALEYRODIDAE.—White flies. These insects are rounded in form and carry a conspicuous fringe around their whole body. They are small and look much like scale insects. The mature insects, however, have wings in both sexes, and four wings, while only the male scale has wings and he only one pair. These are sucking insects of course, as are all the bug order, and though, like the scale insects, they are very small, on account of their enormous numbers, they may do immense damage. It is estimated that the white orange fly of Florida takes from the orange growers of that state the sum of three quarters of a million and some say a million of dollars annually. We are tremendously interested in these white flies as we are in eminent danger of importing these Florida pests. It has been in Florida for years and is spreading and the best informed despair of ever getting wholly rid of it. It also works havoc in several other gulf states. It is known as Aleyrodes citri and in the immature state looks much like our common soft brown scale. Some think that it is a native of Florida though very like it is an imported species, native perhaps of Chili, as Mr. Craw says he has known it to come more than once on fruit, which he has always destroyed, from that country. It is almost entirely without enemies, in Florida, and if imported into our citrus orchards, would become a terrible enemy. We must take every means to prevent this calamity. We must all become familiar with it so we can detect its first introduction. We must keep such a sharp lookout that we will see it as soon as it comes and then we must exterminate at any cost all of the intruders. Florida has a terrible enemy in this white fly of the orange, and we must keep it out at all hazards. It has spread pretty much over the citrus belt of Florida, and we must see that no such misfortune befalls us. Prof. H. A. Gossard of the Florida Experiment Station, Lake City, has in Bulletin 67, given a fine account of this insect and all of our citrus fruit growers should procure this bulletin and familiarize themselves with the entire life history, appearance and habits of this white fly.

* * *

ORCHARD VISITS.

Last Monday in company with Prof. Sumner and four other orange growers I again visited several orchards, that have been fumigated or sprayed under the supervision of the Horticultural Commission of San Bernardino county. We also visited and examined several other orchards that had been sprayed by other parties. We were, I think, of one accord in our conclusion, which we reached after this long examination. We examined one orchard in which the owner handled one of the nozzles, while the spraying was being done. As Mr. Pease, who was one of our party, remarked, the destruction was very complete, although we did find a very few live scale. Some of the other sprayed orchards, one the Jones orchard, which I mentioned in last week's Cultivator, showed that the work had been well done, though not so well but that we found a few live scale. This may be in part due to the fact that the spraying was done too early. We examined two orchards that were being sprayed at the time. One under the charge of the commission. In both we found many leaves untouched, showing that there was a lack of thoroughness in the work. In the one under the charge of the commission, where we would suppose as good outside help would be secured as possible, we found one bunch of leaves fully one foot in diameter, which was right on the outside of the tree, which had not been touched at all. This may have had one thousand young scale on it, which in case of no accident would mean one or two million scale next year. There is no question about the efficiency of spraying when thoroughly done. Last Friday, I examined two orchards near Claremont, which were sprayed some weeks ago. I examined quite carefully and found not a single live scale, though there were carcasses by the millions, Let me repeat, spraying can be made an entire success in the orange orchard, but only with the greatest caution. The sprayer should be young and active and should keep his mind on the work every second of the time. This latter is absolutely imperative. Commissioner Holbrook remarked with emphasis as a result of our examination last Monday that the owner of the orchard must be a party in the work of spraying. I have repeatedly urged this point, and more and more I believe it to be of exceeding importance. The dry leaves which I saw last Monday just after the trees were sprayed are most conclusive. Yet I have visited sprayers, taken unawares, more than once, and have looked entirely in vain for poor work.

We had evidence last Monday of the less cost of spraying over that of fumigation. This was in the orchard of Mrs. Jones of G. St., Ontario. The superintendent, a wide awake German, handled one of the nozzles. The work was well done, and the whole cost of spraying the ten acres was $46. Had it been fumigated by the county commissioners, it would have cost $140. It is safe to say that efficient spraying can be done at one-third or one-fourth the cost of fumigation if the latter is properly done.

The orchards fumigated about Ontario, under the direction of the Horticultural Commission show an excellence that cannot be too much praised. Orchard after orchard, examined showed not a living scale, and it was our unanimous opinion that no injury had been done the fruit except in one or two orchards, where, to complete the job, the work had been continued until after sunrise. Even in these orchards the percentage of damage is very light. This latter fact seems apparent as Mr. Rabe, who has certainly received much the most damage of any, was willing to settle for five dollars. Mr. Freeman who has charge of the other injured orchard, makes no complaint at all. Surely none of these gentlemen ought to complain but ought to be full of gratitude for the excellent work done in their orchards. I do not believe any of these orchards will have to be treated again for a period of three years. Mr. Pease, and, if there is any better authority on fumigation I have yet to see him, insists that enough cyanide be used so that the tender twigs at the tips of the branches shall be slightly burned. This not only insures efficient work, but is the safest guide that the right amount of cyanide and acid has been applied. I am free to say, that were the black scale to hatch as uniformly every year as they are hatching this year in the orchards about Claremont and Ontario, and I think this is is true of a much wider range, then fumigation would certainly be a wise practice, except in matter of expense. But when we can do as good work with the distillate spray at so much less expense, the conclusion still seems evident that spraying must soon supersede fumigation. I believe that very soon each neighborhood will have its own machine and each orchardist will either do the work himself or will so closely supervise it that it will be superexcellent.

We made a much more thorough examination of the King orchard than I was able to on the previous visit. We are all of the opinion that the injury in this orchard was primarily that of insects. Indeed we found almost exactly the same markings, which are very characteristic, in orchards which had been neither sprayed nor fumigated. This conclusion is sustained in the fact of the definite boundary of the injury. The limit of injury by fumigation is never obvious. The fact that the injured fruit is largely on the outside is not exceptional. Spotting by thrips and also by mites, I presume the same would be true of any insect, is always much more in evidence on the outer and upper part of the tree. Many of the spotted oranges in the King orchard could not have been touched by the tent. Mr. Pease remarked to me last spring that spotting by thrips was very much more apparent on the outer part of the tree. Others have noticed the same thing. The fact that the burning of the tender twigs in the King orchard is no greater than in nearly every other orchard that we visited, also argues that insects, not fumigation, have caused the spotting in the King orchard. It is possible, however, that fumigation may tend to deepen the insects' scar. I think we are all in accord with Prof. Sumner, who stated, as we came from the King orchard, that he was about to have a part of his own orchard fumigated, and if he could have just such a piece of work as that done in the King orchard, he would be entirely satisfied. Like every orchard which we examined, it is a magnificent piece of work, and the extermination of the scale is most complete.

It only remains to be said that spotting, or leaf dropping by distillate spray seems a matter of very little importance. If the orchards are in good thrift when the spraying is done, the right distillate used and the approved formula adopted, there will be no complaint of either leaf dropping or spotting of fruit.

* * *

SPOTTING OF FRUIT.

Until last year very little attention was paid to the spotting of our citrus fruits. True, in some sections, especially about San Diego, the work of the silver mite gave some anxiety. The great damage done last year by the thrips has led to more close attention in this direction. Now, all our more careful orchardists are watching for such disfigurement. Mr. Pease, one of our best observers, finds that this year there is a great deal of spotted fruit in the orchard. In his sharp quest for the cause he has discovered a new mite, which in some orchards exists by the millions. Oranges he sent me a few days ago contain hundreds of these little mites, which are even smaller than the common mite of the orange orchard. This new discovery of Mr. Pease has been named by Banks, our best authority in this line, Tenuipalpus californicus. It is to be feared we have another enemy to contend with in these very minute mites which make up for their size in their number. It is to be hoped that all our orchardists will be on the lookout for these and similar orchard enemies. There is hope in this close observation of our orchardists. It means that should the White Fly or Mexican Orange Maggot steal in upon us that they would be discovered and exterminated before they have fairly gained a foothold.

* * *

FARMERS' CLUB INSTITUTE.

Our readers will be interested to know that the Farmers' Clubs' Institute which is always an occasion of so much interest and importance, will occur at San Diego, December 2-4. Mrs. Sherman has promised to be with us and will talk on the Dairy Cow and the Vineyard. We have a partial promise that Mr. John Hamilton, Farmers' Institute expert, of the Department of Agriculture, will be with us and give us the benefit of his ripe experience and wide knowledge in Institute work. At the same time, to economize, we shall hold Institutes at Chino, Nov. 30, and at El Monte, Dec. 1. There will also be an institute at Clearwater on Friday, Nov. 27, and probably at Norwalk or Compton, on Saturday, November 28. We expect that Mrs. Sherman will be present at all these institutes and will give us the benefit of her wisdom and experience. We also hope that Prof. Baker, Mr. Maskew, and Mrs. Basley will each be present at some of them.

It is to be hoped that all our clubs will at once take measures to send each, a large delegation to the San Diego meeting. There are two good reasons why this should not be neglected. First, San Diego has always been very generous to come at large expense to attend all our meetings. It will be very ungenerous not to reciprocate in kind. Again, as always, this meeting will be one of exceeding interest and value. Every club should take measures to secure a personal report from one or more of its own members who will be present and so gain at first hand the information given at the meeting.

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Riverside, Cal. Phone James 1611
Los Angeles, Cal. Phone Black 611

The cold weather of the present season has destroyed the prospect of a large crop of grapes in France and therefore the wine output will be much decreased.

Coast News and Notes

By R. A. Dague, Cor. Sutter and Sansome St., San Francisco

Farmers' Institutes will be held by Prof. D. T. Fowler, conductor for Central and Northern California as follows:

Pope Valley	20th and 21st.
Napa	23rd and 24th.
Two Rock	28th and 29th.
Geyserville	30th and 31st.
NOVEMBER.	
Newcastle	4th and 5th.
Loomis	6th and 7th.
Fresno	5th, 6th and 7th.
Potter Valley	10th and 11th.
Woodland	13th and 14th.
Anderson	18th and 19th.
Corning	20th and 21st.
Winters, probably	24th and 25th.

* * *

The sale of school books by the state in September amounted to $28,000.

The corn crop of the corn belt of the country is considered safe from injury by frosts.

It is estimated that wealth to the amount of $3,000,000,000 was added to the United States by the grain and fruit crops this year.

Governor Pardee has appointed Frank L. Caughley and T. L. Weedon directors of the forty-eighth agricultural district, Mendocino county.

Farm produce commands a good stiff price in San Francisco. Butter squares, 1 3-4 pounds, retail at 55 cents, and fresh eggs at 50 cents per dozen.

Up to this writing something more than 175,000 tons of raw beets have been received at the Oxnard sugar mills. Sugar is being shipped out at the rate of eight car loads a day. The sugar campaign is now about completed.

The contract for the erection of the California building at the St. Louis Fair has been let. It is to cost $15,000 and be completed February 15, 1904. It will be patterned after the old mission building of Santa Barbara.

Not many years ago there were many California farms containing from 10,000 to 40,000 acres. Those great ranches have been, or are being cut into small ranches and put into fruit, and it is found that fruit growers can make money on from five to forty acres.

The following are the chief officers of the State Grange, newly elected: H. C. Raap, Martine, Master; M. V. Griffith, Geyserville, Overseer; Dan'l. Flint, Sacramento, Treasurer; Mrs. L. S. Woodhams-Brasch, San Francisco, Secretary; J. D. Connel, Sacramento, Lecturer.

At the beginning of the season there was a cry that, owing to scarcity of farm help, the farmers of Central California would be unable to harvest their fruits. That foreboding was not justified. The shipments of fruits at this writing from Northern and Central California have been 110 car loads more than were shipped at even date last year.

Ventura county has long been famous as a bean county. It is destined to be known also as a sugar beet producer. This year six bean raisers, H. Hall, W. J. Heard, Frank McDivitt, M. H. Anderson, Mr. Rickart and the Horse and Cattle Company, tried beets. Their crop filled 165 cars. The beets are worth $4.75 a ton, or $25,000. The acreage planted was 285. Their returns were $88.00 per acre.

There are 72,452 farms in California, with an average size of 397 acres. The California Promotion committee has prepared the following table showing the size of the farms and what they produce.

	Total No. Farms.	Ave. Size. Acres.
Hay and Grain	19,048	533
Vegetbles	3,045	89
Fruits	18,537	96
Live Stock	15,418	812
Dairy Produce	8,686	274.8
Tobacco	1	640
Sugar	386	179
Flower Plants	208	8.3
Nursery Products	141	47.4
Miscellaneous	7,072	231.5

This classification of the products of farms does not exclude such products as are fed to live stock.

The Oregon crop of hops is being generally sold now at 25 cents.

The total yield of hops this year in Sonoma county, was 14,600 bales.

A movement is on foot to divide Siskiyou county into two counties.

Ninety-eight Filipino students left Manila October 10 for this country to enter American colleges.

The statement is now made that the steel trust had watered its stocks to the amount of $64,000,000.

Southern California, in the next legislature, will ask for a penitentiary in San Diego county, to cost $1,000,000.

The postal authorities have decided to substitute automobiles for horse carts in San Francisco, for gathering and distributing mail.

The use of crude oil on the roads has proven so satisfactory in many localities in Central California, its use is quite generally being resorted to.

The Pacific Redwood shingle company of Eureka, has cut the prices of shingles from $1.60 to $1.45. This is done to force smaller mills to join the lumber trust.

The ladies of Petaluma have organized an improvement club and are planning a campaign in which they will plant trees on each side of all residence streets.

Very interesting farmers institutes were held at Placerville and Marysville the 14th and 15th instant, and at Fair Oaks the 16th and 17th instant, conducted by Prof. Fowler.

The price of silver bullion still slowly advances. The director of the mint on the 12th instant, purchased 100,000 ounces at 60 1-8 cents per ounce. This is to be coined into Philippine money.

The three Eppinger Brothers, whose crooked dealing with the grain growers of the state have attracted so much attention, have been expelled from the Merchants' Association of San Francisco.

Judge Ross, of the Federal Court, has decided that the supervisors of any county cannot alter a state law which places a limit of twenty-five on the number of quail a sportsman may kill in one day.

Mrs. Daniel Gilger, of Healdsburg, informs the Cultivator that a solution of 14 parts of alcohol to one part carbolic acid is an infallible cure for those afflicted with poison oak. Apply the remedy to the afflicted parts two or three times a day.

Mrs. Russel Sage, Mrs. Grover Cleveland, Mrs. Theodore Roosevelt and other leading women, will hold a convention in December to discuss the servant girl question. They hope to create more humane treatment of servant girls by their employers, and thus induce more self-respecting young women to engage in that useful, and in no sense degrading occupation.

The Southern Pacific Company will oil 200 miles of roadbed in Arizona to keep down the dust. The experiment is satisfactory and other sections will be oiled.

The women of Marysville have organized an improvement club, and are preparing to plant out many hundreds of shade trees along the streets. There is a like movement in many towns of Central California.

On the 12th instant twenty-eight children and two adults were made violently ill at the county orphanage near Fresno by using bad milk. A force of doctors were busy all night with the patients. Fortunately no cases were fatal.

Several of the great railway and manufacturing companies are discharging large numbers of employes. Their excuse is that they are compelled to economize.

Immigration to this country is rapidly increasing. Recently 5000 a day passed through the gates of Ellis island.

Citizens of Tulare county brought suit for $14,000 due them for coyote scalps. The case has gone to the Supreme Court. The claims had been assigned to a bank that brought the suit. The lower court decided in favor of the bank.

700 Extra Fine Lemon Trees

Cheap. Also a few W. Navel, Valencia and Kumquats, Mandarin, Tangerine, Lime and Satsuma or Oonshiu. Headquarters for Citrus trees on Citrus, Trifoliata or Frost Resistant Stock.

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GRAPE NURSERY
All the latest varieties. LA CANADA, CAL.

150,000
Arizona Everbearing Strawberries
PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.
F. P. Baldosser, Covina

For Sale Cheap
COMPLETE PUMPING PLANT
10-Horse-Power Otto Gas Engine; No. 3 Byron Jackson Compound Centrifugal Vertical Pump, nearly new and ready to work. You can have it at a bargain.
T. G. CUSHMAN, SUNLAND, CAL.

Want Some Citrus Trees
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We will supply you. New Stock. Reliable and first-class. All Varieties.
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Send for our Illustrated and Descriptive Catalogue of
CITRUS AND DECIDUOUS FRUITS
DIFFERENT VARIETIES OF EUCALYPTUS
ORNAMENTAL VINES, ROSES
and everything for the orchard and garden.
Ontario, Cal.

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A day spent looking over our nursery will be money well invested

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Station K, LOS ANGELES, Cal.

ALFALFA FARM FOR SALE—

40 acres, (18 in alfalfa) well improved, three flowing wells with good pumping plant, almost new, with 500 feet of 6-inch irrigating pipe. Windmill with 2,500 gal. tank. Large barn, four-room house, all fenced and cross-fenced. Located one mile west of Hynes, 12 miles from Los Angeles. Price, $5,000.

J. W. GAINES, Hynes, Cal.

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Do you want

Eucalyptus Citriodora?

I have them in seed boxes at $6.00 (cash) per 1000, if taken quick. 11 other varieties.

C. E. NEEDHAM Glendora, Cal.

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Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
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Write for descriptive circular.

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401 Mission Street, San Francisco.

Coast News and Notes

CONTINUED

Nearly 3000 people are now employed in the orchards and packing houses of the Pajaro valley.

Charles Gallettey, of Santa Clara county, has sold 10 tons of dried prunes to San Francisco parties at 2¼ cents.

The Sacramento Record asserts that all our best canned fruits are sent east and Californians eat the second grade.

The highest price received, this year, for a car of navel oranges from California, was $1,387.75. The fruit was sold in Boston.

The total shipment of fruits through Sacramento to the east on September 14th were 6717 cars as against 6590 to same date last year.

The Indian Bureau of Washington has awarded the contract to California bidders for the supply of dried fruits required by the bureau the coming year.

Hundreds of men and girls are now busy packing dried prunes at San Jose for shipment. Fifty to sixty car loads of dried fruit are sent out weekly for the east and for Europe.

The orange industry is growing to large proportions in Tulare county. The packing houses of Exter and other towns in that county are preparing to do a large orange shipping business.

Horticultural Commissioner D. W. Rohrback, of Monterey county, officially reports that a decided difference is noticeable in sprayed and unsprayed orchards in that county. In some instances the loss in unsprayed orchards is from 50 to 75 per cent.

The Pomona cannery, at this writing, has put up 800,000 cans of peaches and has been running on tomatoes more than a month. The tomato canning will last till November 1st.

Ten acres of land, near Mountain View, Santa Clara county, has been selected by the government as an experiment station, for grape vines. Sixty-four varieties of resistants will be experimented with.

W. F. Clark, at a recent farmers' institute, stated that it pays to spray for the coddling moth. From one unsprayed tree there were eight boxes of bellflower apples wormy—57 per cent of the whole yield of the tree,—while 16 boxes of perfect fruit were achieved by spraying.

Margaret and Lizzie McMurray, on one-quarter of an acre, planted to Phenomenal and Logan berries, realized a profit of $300 on a sale of fruit; and $144 from the sale of plants, and Miss Ida Shepard, of Fair Oaks, from a single acre of Phenomenal berries, realized $750.

The gathering of the Newtown Pippin apple will soon begin in Monterey county. The crop is good. Commissioner Rohrbrach estimates that the crop will amount to about 400,000 boxes. The prices range from 75 cents to $1.00 per box. In this county apricots proved to be only about half a crop.

Senator Perkins recently returned from Europe. He says California Peaches were selling when he left London at 40 cents. On the Rhine he found the vineyards not bearing one-fifth as well as here, and no wine he tasted was as good as California "Cresta Blanca." The high price of cotton has closed nearly all the textile mills, particularly in Manchester.

Now that winter is approaching the citrus fruit growers are again indulging in discussion as to best methods of protection against frost. One prominent grower says the only effective method is to warm the orchard by fires. It has been ascertained that crude oil smuts the fruit. A firm has, for frost preventative, begun the manufacture of briquettes made of crude oil sludge, coal screenings, asphaltum, sawdust and shavings. This, it is claimed, is impervious to rain and will not smut the fruit.

The supervisors of Tulare county offer a bounty of two cents for squirrel tails.

Yellow fever has broken out in Laredo, Texas, and has become an epidemic.

Beans were a little slow and the market slightly off owing to bear movements.

The U. S. government has let the contract for the big irrigation reservoir near Phoenix, Ariz.

New oil fields in Mexico of much promise are to be exploited by California capital this fall and winter.

The wool growers of Sutter and Yuba counties held a sale the 11th instant. Prices ran from 8 to 11¼ cents.

In the Berryessa valley black leg is killing many cattle, and the disease is spreading in spite of all efforts to stop it.

Four hundred and ninety-two locomotives on the Southern Pacific system now use oil instead of wood or coal for fuel.

Owing to the injury to cotton by the weevil in Texas, hundreds of cotton growers are moving to Oklahoma and the Indian Territory.

Australia has the largest duck farms and the largest incubator in the world. The incubator has a capacity of 11,440 ducks' eggs and 14,080 hens' eggs.

Four gas wells near Ventura give forth a flow of 25,000 feet per day of excellent gas. Ventura and Oxnard are to be supplied with natural gas for fuel purposes.

A movement is on foot to ask congress to amend the Inter-state Commerce law giving power to fix rates on railroads after a full hearing of grievances of shippers.

The famous trotters, Lou Dillon and Major Delmar, were pitted against each other at Lexington, Kentucky, the 10th inst. The first made a mile in 2:01¾ and the latter in 2:03¾.

W. H. Blaine, of Tulare county, will next week, bring 200 head of cattle from the mountain range and put them with his 180 other head on his Monson ranch. Mr. Blaine raises some of the finest cattle found in the state.

The fourth annual meeting of the California Game and Fish Protective Association will be held at Paso Robles on November 13th and 14th. A barbecue and quail and wild pigeon shooting will be features of the entertainment to be provided for the visitors.

The Central California Beekeepers' Association held a convention at Bakersfield on the 13th instant. A telegram from the Los Angeles association was read stating that the directors had fixed a price of five cents a pound on light amber extracted honey, to hold good for the next thirty days.

The regular prizes offered by the Louisiana Purchase Exposition to Holstein-Friesian exhibitors amount to $3,995. The World's Fair special and regular prizes for Holstein-Friesian cattle are about $1000 more than double the offerings on the same breed at the World's Columbian Exposition in 1893.

W. S. Melick, Secretary of the State Board of Examiners, says: "Within six months the government will begin a system of irrigation in California that will cost over two million dollars and place under irrigation 250,00 acres of arid land. Clear lake is to be tapped and waters distributed.

The general government has commenced an extensive system of irrigation in Nevada, Wyoming, Colorado, Montana, Arizona and California. In this state there will be three distinct systems: First, to distribute the waters of the Colorado river; second, utilizing the waters of Clear Lake; third, the uniting of the several systems of Kings river under government management. Over one million acres of arid land will be irrigated under the three systems.

VETERINARY DEPARTMENT

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

INDIGESTION.

Editor Cultivator: Can you, through the Cultivator, give me advice regarding treatment of a horse? Some time ago I doctored a horse for worms and he apparently got rid of them. Soon after he had a very bad attack of scouring and got very thin in a few days. I stopped that with rice milk and laudanum and since have been feeding him wheat hay, rolled barley and bran and have given him flaxseed and milk. The day after giving him the rice milk I noticed in the stable considerable gravel he had passed, which he must have got in picking up stray wisps of hay in the corral. He has been liable to slight attacks of scouring, especially when idle for any length of time and when fed on barley hay, though with wheat hay and plenty of work he has always been all right. After the scouring stopped he picked up very fast to a certain point and past that I can't get him to fatten. If you will put me on the right track I shall be greatly obliged.—A. T. F., Glendora.

Take of sulphate of iron and nux vomica each 2 ounces and cinchonae, gentian and ginger each 4 ounces; mix and put one tablespoonful in the feed three times a day.

* * *

DILATED BURSAE.

Editor Cultivator: I have a colt 5 months old which sprained its ankle or fetlock joint of hind foot by jumping over a barb wire about one month ago. It is no longer lame but there is quite an enlargement of the tendons or muscles on the fore side of the leg over and above the joint. Does it need treatment? If so, what?—F. E. Lowe.

The sack containing synovia that assists the passage of the interior extensor tendons over the fetlock joint became stretched and filled with the oily synovia. They are hard to remove without an operation. You might try painting it with tincture of iodine once a day.

The American Association of traveling passenger agents will convene at New Orleans the first week in November. If the members of that mustrious body would only devise some scheme to compel the baggagemen, who handle the trunks of the traveling public, to dispose of them without wrecking them. This is one of the burning questions which the tourist of today earnestly desires to see satisfactorily answered.

Well Drilling

Wells drilled in first-class manner from six inches diameter to any size desired. Pumps installed.

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HORSES FOR SALE.

Some very fine driving horses and brood mares. I am closing out my stock.

MRS. L. J. H. HASTINGS
A. A. CLEVELAND, MANAGER
Near West Gate of Race Track, Los Angeles

MILK ROUTE FOR SALE

Owing to my wife's failing health I am compelled to offer for sale my

Milk Route, 10½ Acre Dairy Ranch and 33 Head Well-Bred Dairy Stock

Here is an opportunity for some energetic man to step into a well-established business that will comfortably support him from the moment he takes hold of it. Escondido is one of Southern California's most thrifty, healthful and charmingly located settlements, and this is its only milk route. My books are open to the inspection of bona fide prospective purchasers.

C. A. STAMMER,
P.O. Box 1, Escondido, San Diego Co., Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

FEEDING AND BREEDING JERSEYS.

Please give me some information on feeding good young Jersey milk cows for best results in milk production, with feed available at prices named:

Wheat bran, $20 per ton.

Cotton seed meal, $24 per ton.

Cotton seed hulls, $5 per ton.

Sorghum hay, $6 per ton, with fair pasturage (native timber grass). Do you recommend breeding Jersey heifers young? At what age?—O. P. Nagle, Yoakum, Texas.

Ans.—Referring to yours of the 3rd instant, I am pleased to advise that you use the following ration for your Jersey herd, while running on the native grass described. Five pounds of cotton seed meal, two pounds of wheat bran, ten pounds of sorghum hay and ten pounds of cotton seed hulls per day. When the pasture fails, would advise that you substitute two to four pounds of corn chops daily for the grass, to sustain the flesh of the herd.

Well grown heifers may be profitably bred at 18 months old. Small or undersized heifers should not be bred for two or three months later. The season at which the heifer will drop is a factor to be considered. The spring season is the most favorable time for very young heifers. Full feeding in the late winter with silage or green alfalfa may supply all the protective conditions wanted. One reason that Jerseys are so small when matured is because of too early breeding.—Farm and Ranch.

MAGNITUDE OF WORLD'S FAIR PRIZES.

The cash prizes in Chief Coburn's department of the World's Fair are $55,300 greater than those offered by the fourteen largest live stock shows of the United States in 1902.

This interesting comparison was made at the recent meeting of the American Association of Live Stock Herd Book Secretaries in a paper on "Live Stock Exhibits at the World's Fair," read by Hon. Geo. W. Stubblefield. Mr. Stubblefield took for comparison the amounts of money offered in 1902 by the State Fairs of Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Nebraska, New York, Ohio, Texas and Wisconsin, and of the International Exposition at Chicago and the American Royal show at Kansas City. The total live stock offerings of these fourteen great shows, compared with those of the World's Fair at St. Louis, read as follows:

	State Fair.	World's Fair.	Difference.
Horses	$49,488.00	$93,640	$44,152.00
Cattle.	84,623.50	64,030	20,593.50
Sheep .	23,906.50	45,500	21,593.50
Swine .	24,477.00	32.186	7,709.90
Poultry and Pige'ns	13,329.85	15,770	2,440.15
Totals	$195,824.85	$251,126	$55,301.15

These figures give at a glance a view of the magnitude of the World's Fair live stock prizes.

EXERCISE FOR MILCH COWS.

Every dairyman knows that violent exercise is detrimental to the yield of milk, but it is an error to suppose that continued confinement in the stall is the most economical treatment for a milch cow. Close confinement, with impure air and lack of exercise, is as prejudicial to the health of cows as to that of human beings. With moderate locomotive exercise the slight reduction in quantity of milk appears to be fully compensated by the increased yield of solids. Munk undertook to settle this point, and experimented with thirty cows and found that when they were allowed half an hour daily exercise the total quantity of milk, as well as the fat and casein, increased though much exercise exerted an adverse influence on the milk. When cows are on grass their increased appetites in the presence of an abundance of food quite makes up for any loss incurred in the movement necessary to obtain that food. Hence it is desirable that stall-fed milch cows should have daily exercise. Very violent exercise sometimes has the effect of producing very much change in the quality as well as the quantity. It always has the effect of lessening the quantity but the effect upon the chemical composition is not known. There are numerous instances, however, in which the physiological effect of taking milk from an exhausted animal has proven injurious. It is generally recognized that it is unsafe to allow a calf or colt to suckle when the dam is overheated.

On August 19, 1891, at Bourbon, Ind., the following case occurred: A valuable mare owned by Mrs. C., had been used at the harrow while her six weeks' old colt had been left in the shade. The mare fretted greatly and was worked a couple of hours longer than usual to finish a piece of work. The foal was allowed to suckle as soon as she stopped work. It died in in about four hours. No cause could be assigned except the possibility of the milk having become altered by fretting, heat and exertion.

Recently promulgated theories of dark, warm stables and no exercise for profitable milk production are without rational basis and lead to disastrous results sooner or later. Attached to the cowhouse should be an exercise yard, a part of which should be roofed.

Very young grass or alfalfa is a laxative food, and if cows are turned on it in the early spring and allowed to eat their full, they are pretty sure to fall off much in milk. The cows should be allowed to feed gradually on new grass in the spring, and for a short period at a time, until they gradually become accustomed to the new diet.

Are you selling your milk in town? If so, it will pay you to keep every thing about your dairy and barn neat and clean; then if your customers drive out to see your place they will be pleased instead of going to find another dairyman.

THE ALDERNEY BREED.

"The Alderneys and Jerseys are so closely related and so much alike in appearance that the description given for Jerseys will apply to them. They can be classed as the same breed, but bearing the name of their island home. The main difference is that the Alderneys are smaller and more delicate, and for this reason are not so much in favor."

The above passage was printed in a book which I judge is in the hands of many farmers throughout the country.

When Channel island cattle were first imported to the United States, and for a long time thereafter, both Jersey and Guernsey, and especially the former were called by many people Alderney cattle. The Island of Alderney is one of the Channel group, and although the third in size is too small to export any cattle. It probably has no cattle except for family use, and so far as record shows none were ever exported from there. The name may have originated from the fact that Alderney, having a good harbor and being nearer to England, all vessels carrying cattle or produce from Guernsey and Jersey formerly cleared from the Alderney port before leaving the islands for England. This may have given the impression to early English importers that they were Alderney cattle, and the name so came to this country. The fact is that there is no such thing as an Alderney breed of cattle.—Breeders' Gazette.

Don't forget that your cows need salt. Keep it where they can get at it every day of the year.

WILL HOLD THEIR CATTLE.

William Herman, a Wyoming rancher shipping from Grenza is of the opinion that there will be a great many cattle held on the western range this winter unless prices advance before the shipping season is over. He brought in a bunch of cattle and says that he only shipped the poor stuff, off colored, etc. He says he won't sell his best stock at present prices and is making preparations for the winter accordingly. There is plenty of hay in that part of the country, and Mr. Herman thinks that practically all who can will take a chance on next season. The grasshoppers have done some damage to the ranges on the divides, but have not worked on the alfalfa in the valleys. People in that section figure on feeding about a month and a half or two months. They fence off pastures for fall use and the grass in them is now maturing into good substantial feed.—Omaha Stockman.

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OF
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On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from **Fresno to Berkeley.**
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Rialto Building, San Francisco

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GO TO GARDENA

Do you want a bargain? Do you want to make money and live in a beautiful farming district near street-car lines, 30 minutes from Los Angeles? Then "Go to Gardena," where there is taken an abundance of water from deep wells, ranging from 200 to 260 feet deep, and furnishing from 40 to 150 inches of water (per well) pouring forth an inexhaustible supply of pure soft water, both for irrigating and domestic use.

The soil is rich sandy loam, laying level and well adapted for irrigation. It produces the finest quality of alfalfa, berries and vegetables. The climate is ideal. There is a good class of people, churches, schools, etc.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

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Does Fancy Butter Pay?

Samuel Haughdahl, the noted creamery authority, writing in the Dairy World, says:

We often hear the assertion made that it does not pay to make a fancy article of butter, that creameries receiving hand separator cream or making an inferior grade of butter get the same price for their butter as creameries receiving whole milk and ripening their cream by the use of a commercial starter and using up-to-date methods. While this may possibly be true in some exceptional cases, such statements are as a whole erroneous and misleading and tend to foster the belief that the quality of butter is a secondary matter after all, if the same price is paid regardless of quality.

I have known of creamery boards to hold meetings and quarrel for days if they should buy a new vat or buy a starter can or a milk heater or grant the butter maker's demand for a raise of $10 per month and finally conclude that it would not pay to spend the money, and at the same time also conclude that one-half cent premium was good enough. In other words, they would rather be satisfied to lose from $500 to $800 per year in the price of their butter than to pay their buttermaker what they believed to be unduly high wages or investing $100 for improving the equipment of the creamery. I am glad to say that this is not always the case, but sometimes it is, Some creamery managers and boards of directors are shrewd business men and do business on business principles and would rather pay a good buttermaker $100 per month than to take any chances with a cheap, inexperienced man, knowing that one-half cent per pound of butter, more or less, more than makes up the difference between a $50 and $100 per month man.

Some creamery boards have to "learn by experience" before realizing this fully. Such a case was very forcibly brought to my notice lately by the experience of a well-known Minnesota creamery, which was lucky enough to get a very good man as butter-maker for years at a low salary. His demand for a raise in wages of $10 per month was denied and he very properly hired out to another creamery.

The creamery board hired another man and have since lost several hundred dollars cash besides the good reputation which they formerly enjoyed for their butter, and have had such "costly" experience that they will likely not forget it for some years to come.

I have always thought that a good butter-maker is cheap at $75 per month, yes, even at $100, cheaper than a poor man at $50 and I still believe that the sooner our creamery boards learn to realize that this is true the better for the creameries as well as for the good butter-makers. Another thing which I believe to be equally true is that not one man in five, or less than 20 per cent. of all the men that try to learn the butter-making profession, succeed, or turn out to be truly first-class men. It requires such an endless amount of energy, "go-aheadedness" and "stick-to-edness" and attention to business that many who naturally are bright and brainy enough and who we would expect to succeed, fail to come up to our expectations, simply because the daily washing and scrubbing and long hours from 4 o'clock a.m. to 9 p.m. of hard work inside of a hot creamery in the summer and damp in the winter months is enough to hamper the ambition, health and good humor of almost any man.

Then if the ambition and good will is lacking, what about keeping the creamery clean inside, the platforms outside, the skim and buttermilk tanks under the hot ceiling or upstairs, stowed away in a dark corner; the milk pipes, etc., what about the quality of the butter if the milk or cream is poor, tainted, weedy, bitter, sour, and bad, the cans dirty, etc., and when he speaks to the patrons about these defects, that they ought to do better, take better care, and bring better milk, they may drive away angry, with the remark that they will go to another creamery or "ship" the cream?

What about skill and scientific buttermaking, use of starters, ripening of the cream by up-to-date methods, so as to improve the flavor another point or two in order to make it worth another half cent or make a good showing at a convention that he may gain a good reputation for himself, the creamery and the state, when the board of directors says he must be careful in sending home milk or cans so as not to lose any patrons, and possibly his own job, that sending butter to conventions are immaterial to the creamery, that if he wants commercial cultures and starter can and acid test he will have to pay for it himself, etc. Why, it will give four men out of five that "tired feeling" which again results in an unclean creamery, poor butter, run down machinery, etc.

These are some of the reasons why so many fail in gaining the distinction and reputation of being a first-class butter-maker, and why some men are cheap at $100. They keep up their courage and ambition in spite of everything; they keep good humored, talk kindly to their patrons, and gain their confidence and good will. Then the patrons will take any suggestion the butter-maker may make in good spirit, and try to bring better milk next time. The quality of the butter is improved by the improved quality of the milk, and the highest possible price for the butter is easily obtained, and it always did pay, and I hope it always will pay to make good butter. Poor butter has been in fairly good demand the last few years on account of increased demand created by the merits of the good butter, also increase in population; but we should not forget that history repeats itself, and that the hard times may come and the demand and price for butter may decrease. Then the poor butter will be a "drug on the market" worse than it is today. We should also remember that it is the lower grades of butter which keep down the market price on all grades and at all times.

The Imperial Press says: The Calexico Cattle Company is crowding its work ahead as rapidly as possible with a view to seeding about 400 to 500 acres to alfalfa this fall. Also that the California and Mexico Land and Cattle Company have bought two tons of alfalfa seed for immediate sowing, which is enough for about 200 acres.

It is not enough to have a well-bred dairy cow; you must feed her well and take good care of her if you want her to do her best. The same thing is true of the well bred hen.

KNOWLEDGE OF THE AVERAGE MILK INSPECTOR.

The knowledge possessed by the average milk inspector and, for that matter, the average physician, is well illustrated in the following account of a test examination made at De Kalb, Illinois, by an inspector who took with him several young doctors to be sure he would make no mistake. They came, milked and tested and then submitted their report to the health officers of the county when the test was made. The following letter printed in the Chicago Record-Herald shows the extent of their wisdom:

Editor Record-Herald: I notice in one of your contemporaries today that by the tests taken by Mr. Patterson of the pure food commission and Mr. Grady of the city milk inspection bureau the Holstein cow is condemned on the sample of milk taken from the cow that Mr. Patterson milked.

Now, as I was there on the invitation of Mr. Gurler, I happen to know something about the whole proceedings, and especially in regard to the milking of the Holstein cow in question. I naturally supposed all the facts would be given for publication, but for some reason they do not appear in either of the reports; hence, in justice to the dairymen in whose interests it is my duty to speak, and to do justice to that noble breed of dairy cattle that are being so much maligned by the city inspectors, I state the facts from a dairyman's standpoint.

Mr. Patterson did not milk the cow; he only partially milked her. He milked from the cow eleven pounds of milk, which, according to the published reports, tested only 2.8% butter fat. But what followed? I had one of Mr. Gurler's regular milkers take the cow immediately after Mr. Patterson was through and he got three pounds more milk from her.

This can be verified by Mr. Lundberg, of DeKalb, Alderman Fowler of Chicago, and A. J. Glover and myself. four tests were made of this three pounds of milk and it tested 6%, which does not surprise any one conversant with the quality of the last milk drawn from a cow, compared with the first drawn. Thus we have the following to submit as the test of the Holstein cow's milk that Mr. Patterson was supposed to have milked:

	Test.	
Eleven pounds milked by Mr. Patterson	.2.8	.308
Three pounds milked by Mr. Gurler's milker	.6.0	.180
		.488
14 lbs milk, average	3.485	.488

As the state test is 3%, this Holstein cow is still nearly 0.5 above. Why this was given to the public at 2.8 I fail to understand, as I informed Mr. Patterson what we had done before leaving the barn, wishing to be honest with him in the matter.

I am not personally interested in any Holstein cows, but I want to see fair play for all dairy breeds. I love the Jerseys and Guernseys, consider the Ayrshires splendid milkers, learning more every year in regard to the Brown Swiss, and for an all round animal believe the Durham cannot be beaten. Yours for simple justice to the Holstein.

JOSEPH NEWMAN,
Phesident Illinois Dairymen's Association.

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WOMEN AND THE DAIRY.

I had the pleasure, a few days ago, of meeting in company with a few ladies who were all farmers' wives. The conversation drifted from one topic to another, finally one lady spoke something in this manner: She and her mother were performing the task of milking the cows while the men folks were absent on business. At this remark another lady spoke in a very decided tone. She never milked a cow in her life. She didn't know how and she never tried to learn. The first speaker seemed to think she had broached a disagreeable subject and, therefore, tried to withdraw a little by saying that she only milked one cow at a time and theirs was the only cow she ever tried to milk.

Oh, dear, how badly I wanted to tell them that milking a cow was certainly an accomplishment that any lady might feel proud of. I really think that farmers' wives and daughters should know how to milk a cow in case their help was needed when the men were absent. I do not mean they should be put to the disagreeable task of going into a dirty stable to milk, such as is found on most farms. I consider that milk drawn from a cow in a filthy stable is unfit for use. If farmers would pay more attention to keeping their cows and stables clean the task of milking would be more pleasant and the profits of the cow would increase, for they would soon receive a far better price for their milk and butter.

Cleanliness in the stable alone does not mean good butter; the rest is just as simple a matter. I think from what I have observed, that too little attention is paid to the scalding of the utensils used in and about the milk. You may think it strange, but I have actually seen ladies wash their milk crocks, churn and butter bowl with the same dishcloth they used to wash their dishes, and yet they seem to think they are strictly neat about their butter making. Good butter cannot be made with such careless work. Plenty of boiling water must be used (to scald everything used) as it quickly cools and then is of no use for the purpose intended. Fresh air and sunlight are the greatest factors for keeping out the bitter bacteria. Did you ever stick your nose into a milk pail that had been washed out and turned down all night without being scalded? It is those little things that cause so much cheap grease on the market.

I know some ladies are trying hard to make good butter, and they have to carry the water so far and they really have no place fit for keeping milk or butter. Now, let me say to those, you are working at a disadvantage, better give the milk to good heifer calves or little pigs and get ready to make butter first. Then you can demand a good price for your butter, and the merchant will be more than pleased to give it. Every one that owns a cow should take some good dairy paper and not neglect to read it and he will soon learn why he doesn't get a better price for his butter.

We often see so much talk to the farmer about his chickens. Now, do tell us of a farmer who is interested in the chickens on the farm. I really don't remember ever meeting one. Why, I never could get one on our farm interested enough to even clean out the hen house, unless I got right down on my knees and begged. The only time I ever saw our men folks show any signs of interest in the hens was when they smelled one frying in hot butter.—Mrs. F. G. Hall in Northern Agriculturist.

THE DUAL PURPOSE COW.

There has been considerable discussion in the agricultural press of late concerning the dual-purpose cow, or the combining in one animal both milk and beef qualities, and while the discussion has been fair and friendly, the lines are as tensely drawn as in the beginning, and agreement seems about as hard to reach as in a congressional convention. Now it seems to me this matter, like the story of the color of the shield in the old school reader, can be determined best owing to the view-point of the individual, if I were a breeder of pedigreed stock there would be no dual purpose cow in my herd. Either I should breed beef strains, something that would produce the most pounds of flesh with the smallest amount of feed in the shortest time, or I would go after the cow that would give the highest per cent. of butter producing milk; but for the general farmer or milk shipping dairyman there certainly is room for a dual purpose cow, one of a cross between the large framed, strong constituted beef breed and the more highly developed milk producers; a cow that will weigh ten or welve hundred pounds, with capacity to assimilate food enough to give 5½ to 6 gallons or 4 per cent. milk per day and that will drop a calf weighing from 150 to 175 pounds at four weeks of age. A cow of that description, if she does take on too much flesh for the dairy, can go to the block with profit at any time, and her sons will make profitable feeders, and a quality of steak fit for the gods; but if a dairyman who ships milk to the city trade and who does not raise his calves, has a little bit of a Jersey cow dropping a calf weighing 50 to 75 pounds, and don't want to raise it a butcher don't want it at any price, and it is too small for veal and too large for lamb, and as a rule he knocks it on the head to get rid of it; and if his cow for any cause (and they are legion) loses her value in the dairy, butchers don't want her, and she has to go at about what she will fetch. So we say there is room on the farm for a dual purpose cow, just as there is for a general purpose horse.—John G. Foight in National Stockman.

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He (just introduced):—"What a very homely man that gentleman near the piano is, Mrs. Hopson." She—Isn't he? That is Mr. Hopson." (He (equal to the occasion) "Oh, indeed! How true it is, Mrs. Hopson, that the homely men always get the prettiest wives."—London Tid-Bits.

WORLD'S FAIR PRIZES.

Chief Coburn of the live stock department of the World's Fair has advices from leading Ayrshire breeders of an intention to enter that breed in the World's Fair cow demonstration. The Ayrshire men at the Illinois State Fair held a meeting and passed resolutions requesting the Ayrshire Breeders' Association to take early action toward inviting breeders to furnish cows for the demonstration. The resolutions were signed by W. P. Schenck, Avon, N. Y., as president and G. H. Converse, Woodville, N. Y., secretary of the meeting and the following committee: Howard Cook, Beloit, O., McCormick & Edgely, Pataskala, O., and Secretary C. M. Winslow of the Ayrshire Breeders' Association. The breeders present pledged their services and cattle toward making Ayrshire participation a success at St. Louis.

The Ayrshire Breeders' Association has already made an appropriation of $2000 in aid of the World's Fair Ayrshire exhibit.

The up-to-date dairyman knows which of his cows give the most and richest milk, and he keeps such ones for breeding purposes and gets rid of the poor ones. The poultryman should do the same with his hens; find out which are the good layers, keep them for breeding purposes, and weed out all the poor layers, for they are unprofitable.—Farmer's Tribune.

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

EXTERMINATION OF CHICKEN MITES.

(Concluded from last week.)

In one case I tried to exterminate the mites in a henhouse by means of fire applied with a torch, but the attempt was unsuccessful. The flame was applied to the mites that were visible and they were destroyed. But the process was slow and care had to be taken so as not to set fire to the building. As soon as the interior had all been gone over once it was found that the mites covered it as thickly as before, they having crawled out from their hiding places. It was necessary to go over it several times before the number appeared to appreciably diminish and in a few days they were as plentiful as ever. The application of the flame to all parts is a very slow process and it is attended with some danger. It cannot be directed into the crevices so as to destroy the eggs or the mites which are in hiding. My experience convinces me that it is impracticable to exterminate mites by means of flame. The only way in which fire could be made effective would be to burn the entire building.

I next resorted to the use of kerosene emulsion and found it very effective. The emulsion is made as follows: Take one-half pound of hard soap and shave it into a gallon of soft water and put it on the fire and bring it to a boil. By this time the soap will have dissolved. Then remove the soap solution from the fire and stir into it at once while hot, two gallons of kerosene. This makes a thick creamy emulsion which is made ready for use by diluting with ten volumes of soft water and stirring well. It can be utilized as a spray, dip or wash.

It is necessary to use soft water, for hard water decomposes the soap and destroys its emulsifying power. In my experiments I used white laundry soap, but any good hard soap will do. For the sake of brevity I refrain from recounting my various experiments, but will detail in a general way a method of applying the emulsion based upon my experimentation which will be found effective by those who will thoroughly try it.

Make up as much of the stock emulsion as it is thought will be needed. This can be kept in a suitable vessel and a portion taken out and diluted as needed. If the bucket or holder attached to the spray pump holds five gallons, one-half gallon of the stock emulsion should be taken and put into the bucket or holder and four and one-half gallons of soft water added and the whole well stirred. It is then ready to be sprayed on the places occupied by the mites. A beginning should be made at a particular place and the whole habitation of the mites sprayed in a regular order of which account should be taken so that the same order may be followed in subsequent sprayings. The spray should be directed with special care into all crevices, holes, joints, or other hiding and breeding places of the mites.

The first spray of kerosene emulsion will kill within five minutes all of the mites and eggs with which it comes in contact, but many mites will be left in the hiding places unaffected by the spray. Hence the spraying should be repeated as soon as the first spraying is completed. Even this will not kill all the mites, hence a third spraying should be done as soon as the second is completed. At each repetition the beginning should be made at the same place and the same order followed as in the first. These three sprayings done in one day and in rapid succession will destroy nearly all of the mites, but, as my researches have shown, many eggs are left in places untouched by the spray. If mites are seen crawling about the building the next day, it should be sprayed again.

* * *

Young Mites.—One might ordinarily suppose that he had now exterminated the mites. But such is not the case. for, in about three days, a crop of young mites will be found hatched from the eggs which escaped the first spraying. If these would be allowed to go undisturbed, it would not be long until the building would be as badly infested as at the beginning. Therefore the spraying should be repeated once every three or four days spraying two or three times on each occasion, for about two weeks. The spray should be applied to every part of the building that is likely to contain the mites. In a two-story building they will crawl up the posts and find lodgment upon the second floor even if chickens do not go there. In one case I found a colony of mites on the outside of a small door in the second story of stable in which chickens were kept and which was badly infested with mites. If such a lodging place is overlooked, the mites will not be exterminated. The procedure just described will with very little doubt be effective in ridding a place of mites, but I would advise that a constant watch be kept and the spraying repeated when mites are seen at any subsequent time.

It is not necessary or advisable to exclude the chickens from their regular coop while the process of extermination is going on except while the spraying is in progress. If the chickens are deprived of their regular quarters, they will be compelled to select temporary quarters which will soon be as badly infested with mites as the old through multiplication of the mites which are caried upon the bodies of the fowls. If the chickens are not required to make a new roosting place, the mites which are carried out by them will either drop off upon the ground and perish or will crawl off into the crevices upon the roost and be killed by subsequent sprayings.

Extermination of the mites may be hastened by dusting the fowls with pyrethrum powder after they have gone to roost on the evening before the first spraying. The powder will drive the mites from the birds and, as a result, but few will be carried out the next day upon their bodies. The powder is applied by means of a powder blower. In practice I have not found it necessary to use the powder, for, as already explained, the mites which were carried out upon the first morning were finaly exterminated in other ways. However, if it is convenient to use the powder, the destruction of the mites will be facilitated.

The cost of the remedy is very small. The cost of making thirty gallons of the emulsion is as follows:

Two gallons kerosene at 18c	36c
One-half pound hard soap at 8c.	4c
Labor	5c
Total	45c

This will be enough to spray the ordinary farm hen house once.

* * *

SPRAY PUMP.

In order to insure good results it is very important to have a spray pump which is durable and which acts easily and effectively. Such a pump should be obtained as may be turned to any one of the farm uses to which a spray pump is adapted. While a very cheap pump may be made to serve in an imperfect manner, it will be found in the long run to be poor economy to try to save money by buying a cheap, poorly made pump. By investing seven to ten dollars a desirable article may be obtained. While a copper holder costs more it lasts so much longer than tin as to fully repay its cost. The Bordeaux nozzle should be used. With it one can get a spray of any degree of fineness and the nozzle can be instantly adjusted so as to emit a forcible jet in order to throw the spraying fluid into fissures and holes. There are many good, reliable makes of spray pumps and different kinds may be seen in almost any implement store.

* * *

DESTRUCTION OF MITE EGGS BY SPRAYING.

On July 11, a sugar barrel which was used as a nesting place by the hens and which was swarming with mites was sprayed with kerosene emulsion. Afterwards a hoop was removed and was found to be covered on the inside with a large number of mite eggs. These eggs had been thoroughly moistened by the spray, and the mites upon the hoop had been killed. A piece of the hoop was cut out and placed under a glass dish. The air was kept moist by placing under the glass dish a smaller dish containing water. Other pieces of the hoop were left lying in an outbuilding so that they might be under conditions as nearly natural as possible. Observations were kept up until July 20th, but the eggs failed to hatch and were at the end of this time shrunken and evidently in such a condition that subsequent hatching was impossible.

* * *

SUMMARY.

The chicken mite is one of the worst enemies of chickens.

The mites live and breed in fissures about buildings and feed upon the fowls when they go upon the nest or perch.

Mites may be introduced into a flock by a fowl or other bearer brought from infected premises.

Mites may be exterminated by thoroughly spraying the building and its contents with kerosene emulsion.

Kerosene emulsion kills not only the mites, but also their eggs, when it comes into contact with them.—Poultry Keeper.

Place the roost for poultry on a level.

One advantage in keeping poultry, is that they eat much which other wise would be wasted.

Avoid the mistakes made last year, and make good use of the useful things you learned last year.

Poultry make good insect destroyers for orchards. Have the runs extend into the orchard when possible.

The incubator lamp should be cleaned and filled every day at noon. This will give ample time to regulate the flame by night.

If the incubator is to be used in hatching chicks, look it over and see that everything about it is in proper shape before starting the heat.

Keep the poultry buildings and yard properly disinfected. One pint of carbolic acid, in eight gallons of water makes an excellent disinfectant.

It will pay you as well to give the poultry good care and attention, as it does your calves and pigs.

Some poultry keepers feed mashed potatoes and red pepper; the red pepper acclerates the blood, but it does not cause the hen to lay eggs, for it provides no elements for egg producing.

Keep the laying hens working. To do this, feed them at daybreak, and just before sundown.

The Petaluma Incubator Company sends the Cultivator a list of those who gained the highest points in the Australian hen laying contest for April, May, June and July. In the number are three Americans whose birds scored as follows::

Mrs. A. H. Hensel, R. C. B. L., 470 eggs
W. K. Hayes, W. Wya .....414 eggs
W. B. Candee, W. Wya.....245 eggs

EGGS FOR HATCHING
—FROM—
PETALUMA FAMOUS WHITE LEGHORNS
Price according to quantity and market quotations. Address
The A. R. COULSON CO.,
Petaluma, Cal.

FREE! FREE!
The 1904 Catalogue B
Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
Must Hatch Incubator Co., PETALUMA CAL.

JACOB KREGER
Route 1 - Anaheim, Cal.
BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
Eggs and Stock for sale at reasonable prices

MATURED
Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.

LEE'S EGG MAKER
When fed according to directions will make more eggs than any other known food. Bought by the car load and sold in 25-lb. Pails for $2.00; 2½-lb. packages, 25c.
LEE'S LICE KILLER
"The Only One Imitated."
Henry Albers
315 S. Main St. Los Angeles, Cal.

WOMAN'S WORK IN THE POULTRY YARD.

If you were to commence again, how would you do it? This question was recently asked me.

As I did at first, by buying thoroughbreds and gradually increasing my flock. This is the usual advice of all poultry books and poultry breeders, a good advice it is, because one can more easily study a small family, learn its ways and its needs, and if there are any sad experiences or accidents, the loss is not so heavy as if many were involved. Or, if I could not afford to buy a pen of thoroughbred fowls I would get thoroughbred eggs and commence my flock with them.

Why are thoroughbreds better than mongrels? The reasons are many. First, you can depend upon the pure breed for uniform growth. Mongrel chicks will vary in size, they never grow fast, and one or two in the flock will be ready for market two months before the others. Look at the waste of food. Not only this, the pure bred are uniform in looks, after dressing for market, and will sell higher on that account. Their eggs and themselves bring a much higher price than mongrels, and they lay many more eggs. Besides there is a satisfaction in possessing a nice, uniform flock of fowls, of the same approximate size, color and appearance, that can never be felt in owning a flock of mongrels of divers sizes, shapes and colors.

But to return to my subject. If I wanted to make money from the start, I would invest in several incubators of the best make, and hatch eggs for other people. Follow the instructions of the incubator maker carefully, use common sense and study the machine. Here let me repeat the warning that I gave last year, test your thermometer, old or new, or get it tested at a drug store. It is easy to test it at home by using a little care. Borrow a doctor's, or clinical thermometer. Take a bucket holding at least half a gallon of warm water. Immerse two thermometers in it, keeping the water stirred, and compare the two. If your thermometer is half a degree higher than the clinical, you must run the incubator half a degree higher than your directions—if your thermometer is lower than the clinical, the incubator must be run that much lower. The thermometers are apt to vary until they are two years old and seasoned. I test mine every year. There are so many little things in the chicken business that negelected bring failure.

In hatching eggs for other people—please consider that this means you—charge when the eggs are shipped five cents for each chick hatched, and two and a half cents each for infertile eggs, which will not hatch, as they take up space in the incubator, and if such a charge is made those furnishing the eggs will try to have them all fresh and fertile. Young chicks from your own eggs can be sold straight from the incubator, not over twenty-four hours old, at from ten to twenty-five cents each, according to quality and breed, or if kept longer, a charge of from two and a half to five cents each per week would be fair to both parties. After one gets accustomed to the use of incubators and brooders, the work seems easy and one can go ahead with surety, but it takes a certain amount of experience; it is something that one must learn for oneself. Books, rules, other people's observations, are undoubtedly an assistance, but one's own experience teaches more effectively, and "if at first you don't succeed try, try again."

To hatch a chick in an incubator costs on an average from six to seven cents, counting the price of the egg at 25 cents per dozen, the oil used, etc. If that chick can be sold at ten or fifteen cents you have a return of from fifty to a hundred per cent on your outlay. Those chicks that are not sold can be raised for broilers or fryers. A broiler weighs about a pound and a half, a fryer from two to two and a half pounds. These sell rapidly at from thirty-five to fifty cents each.

Before leaving the subject of incubators, I will say I have found as a rule, that most of the hot water incubators I have tried have not ventilation enough for this climate. This is shown by the eggs not drying out sufficiently, the air space does not get large enough. A very good plan to test your incubator is by setting a hen at the same time and every few days test some of her eggs and some from the incubator. If those in the incubator do not show as large an air space as those under the hen, they require more ventilation, the ventilator should be opened and the eggs aired by being taken out of the machine at least twice a day and left out from ten to twenty minutes according to the warmth of the room. I am writing of the California climate at about two hundred feet above sea-level.

When chicks die in the shell it is either from weak parent stock, or the eggs have not been dried out enough, or there has not been sufficient oxygen in the incubator to keep the chicks vigorous, or the incubator has not been run according to directions.

Crippled chicks come from the same causes, especially from irregularities in the temperature. Very often the great, strong, beautiful chick has grown so big, has so little air space, that in his struggles to get out he dislocates his leg, usually left leg, at the knee joint. I suppose some one more clever than I might set that leg. I have generally pushed the joint in place but am not surgeon enough to keep it in place, so the cripple is consigned to an early grave.

My next will be on brooder chicks.

ANSWERS TO QUESTIONS.

Editor Cultivator: Will you kindly tell me through your paper the causes of and remedies for a disease among chickens which causes the head to become hot and swollen, the chick as the disease progresses becoming blind and deaf, finally refusing food and dying. Is it contagious? Subscriber, J. A. S.

I am sorry to say your fowls have roup. Sometimes called contagious catarrah. It is very contagious. It usually commences like a common cold, but when it comes to such an acute stage as you describe, the hatchet is the best remedy, and bury the remains deeply. Disinfect the buildings and yards, and if there are only a few slightly sick left, doctor them with the roup cures that have been given in the Cultivator.

Sand is not grit, it is too fine; gravel from the creek is not grit, the action of the water has worn off all the sharp edges. Grit to be of any service to the fowl must be hard and have sharp edges. When these are worn off the grit is discharged with the other waste from the fowl's body.

Swollen legs and feet of fowls is often caused by keeping them on a hard floor.

If poultry need a little extra feed it is a good time to give it to them just before they go to their roosts.

Chickens will moult much quicker if they are kept in a good growing condition.

ROUP and CHOLERA

Get the Habit of using PALMER'S POULTRY POWDERS in your poultry pens and you will have no other.

PALMER'S POULTRY P P POWDERS — Trade Mark

We have what you've been looking for—a guaranteed cure for Roup and Cholera—something that cures in every case if used according to directions. Palmer's Poultry Powders—the only infallible remedy ever offered the public for Roup and Cholera. Manufactured in your own State by the

PALMER POULTRY POWDER CO.,
102 South Spring St. Los Angeles, Cal.
$1.00 Per Package

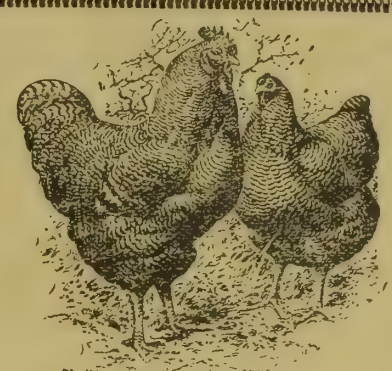
500 CHICKS $4.00 — Four Dollars — $4.00 500 CHICKS
WORTH OF
Croley's Dry Mixed Chick Feed

Will carry 500 chicks safely over the Danger Line—all of them. Most economical. No cooking. No mess. Always ready to feed. Saves time. Saves labor. Saves millions of chicks.

25-lb. Sack for 125 Chicks $1.00 — 50-lb. Sack for 250 Chicks $2.00 — 100-lb. Sack for 500 Chicks $4.00

Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.

Geo. H. Croley, Poultry Supplies
508 SACRAMENTO ST. SAN FRANCISCO, CAL.

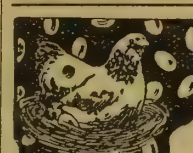


White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices. G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.

Don't believe all we say but just enough to try our Poultry foods.
Emery's Pure Meat Meal Emery's "B. B. & B."
Ask your nearest dealer for them and take no imitations.
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

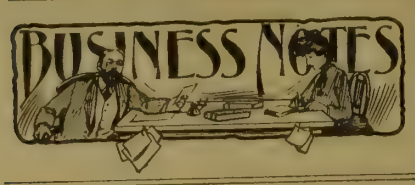
WHITE PLYMOUTH ROCKS
GIVEN AWAY
"Poultry West of the Rockies" or "The 200-Egg Hen Per Year" with each sitting of White Rock or Indian Runner Duck Eggs. Write for circular.
Eggs—13 for $2.00.
INDIAN RUNNER DUCKS Imported from Australia, celebrated layers, eggs $2.50 per 11. Correspondence invited. Yards closed Sundays. Illustrated circular.
Mrs. A. Basley
Near Los Angeles, Alma St. Prospect Park, Cal.



100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.

This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL.

When writing to Advertisers Please mention Cultivator



WE NEVER LET UP.

The advertiser who expects an advertisement to be an all 'round cure-all, and to be able to carry the burden of the business is sure to have disappointment, as the result of his advertising. Once in touch with a possible buyer, the matter must be followed up. The advantage of the particular article advertised, and the possibility of full value for the money must be shown. This may be in the first letter, the second or the fourth. But follow up every inquiry. The persistent advertiser wins.

This truth was shown most conclusively in a recent conversation with R. M. Teague of the San Dimas Citrus Nurseries.

We asked Mr. Tague how he had worked up such an immense business in selling citrus trees in the few years he has been in the nursery business. We knew, of course, that it came largely from a reputation established from fine trees, true to name, and always square dealings. At the same time, how had he gained his reputation. And his answer was, "Well, we never let up." Always growing good trees, always advertising it in the best papers, and with a good follow-up system. Especially this last idea, for it often takes time to reach the purchaser, when he is in the right frame of mind and is ready for business.

Sometimes we are told by our advertisers that "your adds bring many inquiries, but we make few sales." Was this the fault of the paper or of the business man who did not show the full worth of his wares so as to land the customer.

The "never let-up," policy would have done it.

By the way, it may be in order to state that Mr. Teague's stock for the coming year is as fine as it is large. And on quality it is safe to say that no greater number of budded orange trees were ever gathered together.

Navels, Valencias, Japanese, grape fruit, lemons, everything in citrus trees. Whatever you want take it away from Teague's.

Already a number of sales were made, which indicates the season is not so backward and that many plantings of citrus trees will be made.

The catalogue which Mr. Teague issues this year is by long odds the finest and largest he has ever put out. It is of fifty-six pages, of Antique book paper, with inserts of coated book for the half-tones, of which there are thirty-fve different scenes, of the nurseries and of orange tres.

If you contemplate buying oranges, send for it.

* * *

W. D. Anderson, of San Bernardino, announces his ability to sink artesian wells in any size from six inches up. Mr. Anderson has a large power rig, which enables him to do first-class work expeditiously. A card dropped to Mr. Anderson will bring estimates of cost and as to time when he is open for engagement.

* * *

Mullen & Bluett realize the worth of the Cultivator field and enter it again to invite attention to their large stock of clothing and furnishing goods. Their store is located on the corner of Spring and First streets, Los Angeles, and is filled with a magnificent stock of goods. Strictly reliable in dealing, with best of goods at fair prices, gives this firm a strong pull, country trade as well as city.

* * *

A PRESERVATIVE FOR FENCE POSTS.

The Wood and Iron Preserving Co. of Los Angeles are putting out what is said to be an excellent and cheap preservative for posts, bridge work, and other exposed timbers. It has been long known that coal tar and some like substances preserve wood, but when applied as an external coating they have deteriorated and broken down through the action of salt water. To obviate this difficulty the inventor of this process mixed with hot asphalt Portland cement. The cement does not combine with the asphalt, as cement does when mixed with water, but forms only a mechanical mixture. The timber being covered with this mixture and exposed to water the particles of cement that happen to be upon the surface "set" in the water, and form a hard, impervious but extremely thin coating about the asphalt, preserving it against the effects of water.

WILL MOVE THE CROP.

Advices from Chicago state that the railroads are making arrangements to move the great crop of 1903-4 without delay. To do this immense orders for cars and locomotives have been placed with eastern roads from which these equipments will be borrowed.

Something of an idea may be gained of the great wealth in store for this state when it is estimated that the lemon and orange yield for 1903-4 will be 30,000 car loads; 7000 more than the crop just moved. The estimated value of this crop is $20,500,000. Last year's shipments were 22,500 car loads, value $14,000,000. The Herald suggests that the railroads propose to move this season's crop by months as follows: November, 1000 carloads; December, 3000; January, 2000; February, March, April, May, 4000 each month; June July and August, 2000 each month; September and October, 1000 each month; total, 30,000.

The editor of the Cultivator is in receipt of a leter from a prominent railroad man in the east, in which he says that the California transportation companies are placing heavier orders for refrigerator cars and locomotives this season, with eastern roads, than ever before, and that in his judgment no trouble wll be experienced in moving the citrus crop of 1903-4. There is one thing which guarantees quick movement of crops this year and that is, the increased facilities of the California railroads. For the past year they have been placing large orders for cars and locomotives.

A SUBTERRANEAN RIVER.

A syndicate of water developers has uncovered a subterranean river in the territory of Santa Monica with a volume of 73 inches. The water was reached at a depth of 15 feet. This will insure abundant water for all the Santa Monica and Hollywood district.

The California Fruit Growers' Convention will be held at Fresno commencing December 8th. A committee to arrange a programme has been appointed, consisting of Leonard Coates, John S. Dare and B. E. Hutchinson.

U. S. Senator Detrich of Nebraska, who has just returned from an extended trip through Alaska, says he does not think that territory will ever make any advance agriculturally, but that it will become one of the richest of our mineral possessions.

In taking up trees for transplanting, care should always be taken to save as many good roots as possible. The roots are the life of the tree and good care should be taken to preserve them. No careless digging, no exposure to sun or rain, or anything sufficient to kill the tender roots should be allowed.

C. W. Leffingwell of the Lemonita ranch near Whittier, has been given the gold medal at the recent congress for his exhibit of lemons. This was the highest award. Mr. Leffingwell is an authority on lemons, and on his large ranch more than 200 acres of which is planted to lemons, are many unique features of his own devising. He picks, packs and markets his fruit and insists that unusual care be observed in all the work. As a consequence he has only a minimum of decayed fruit, and gets fine prices. At his packing house this month were to be seen boxes of lemons in the best of condition which were picked and packed last November—nearly a year ago. —Times.

BEANS FOR THE WORLD.

Fifty tons per day of Lima beans grown in the Santa Monica district are being run through a cleaner at a Santa Monica warehouse, and a large proportion of that quantity is being cleaned by a like machine at a warehouse at Palms.

According to estimates made this season's crop, which means practically the "visible supply" for the world, amounts to 755,000 sacks, distributed in the following proportions: Ventura field, 600,000; Santa Monica field, 120,000; Santa Ana field, 35,000. The estimated average weight is eighty pounds to the sack.

There are at present about 50,000 sacks of beans in the Santa Monica warehouse and orders have been received for all of that quantity. This season's acreage of Lima beans for the Santa Monica field numbers about 8000. Next year it is expected there will be 10,000 acres in that field devoted to Lima bean culture. Considerable areas not heretofore in beans have been leased for that purpose for next season.

ANTHRAX.

The two most virulent diseases which cause most loss to stock growers, are anthrax and blackleg. The two diseases are in a way similar in symptoms but the diseases should be treated differently. In anthrax, which is an infectious disease, and because of its frightful mortality is one of the most dreaded diseases which attacks the brute creation. Like its running mate blackleg, it developes so rapidly when once it attacks that it is almost impossible to check its ravages. It usually comes in summer or early fall when feed is changing.

Anthrax is a germ disease, the germs entering the body usually through feed, but some times by contact with earth where carcasses of animals who died with the disease have left the germs so exposed as to permit of their being brought in by scratches on the hides of the animal. The germs are very hardy and live in the soil for a number of years. They may be carried long distances without losing their virulence, and may be conveyed to a farm, ranch or plantation in a vast variety of ways. The grave of an animal that has died of anthrax will keep the land infected for nine of ten years, and the stock grazing on such land are liable to contract the disease. A stream running near such a grave will carry the infection all along its course; fodder cut near a grave may contain the germs and infect the animals fed upon it. Hides are a fruitful source of infection. Cattle, etc., driven through a district where the germs of Anthrax exist are liable to and frequently take the disease. Anthrax is highly contagious, and one sick or dead animal may infect not only a whole herd but a whole region.

The only sure preventative of the disease is vaccination. This will put a stop to the disease and if proper care is taken not to expose living animals to the bacillus of dead ones will eradicate the disease entirely from a herd.

Director Alexander G. McAdie makes the following report of weather and crop conditions for the week ending October 19, 1903:

The rain of the preceding week was less injurious than anticipated.

Oranges are in excellent condition in all sections and colored rapidly during the week; the first of this season's crop arrived in San Francisco from Rocklin, Placer county, on the 15th, which is about two weeks earlier than previous records for the state. It is expected that the orange crop will be above average in quality and quantity. Grape picking continues in some sections and large shipments are being made to markets and wineries. The first crop of raisins is practically all secured and the second crop is curing rapidly; a few days of favorable weather will insure the safety of the raisin and prune crops. Prunes are of better quality than usual, but the yield is below average. No reliable estimate of the raisin crop has been received, but it is believed to be fully average. The season has been in most respects a very prosperous one for orchardists, though the apple and pear crops have been quite badly damaged by codling moth. Walnut trees are below average in yield, but are reported excellent in quality.

Beans and sugar beets are nearly all harvested; both crops are about the same as last season's. Potatoes are said to be below average in some sections. Corn harvest is progressing. Dry feed is scarce and cattle are in poor condition. Plowing and seeding continue in some places.

SAN JOAQUIN VALLEY.

Clear, warm weather prevailed during the week, with light winds; conditions very favorable for raisin making and prune drying. The first crop of raisins is all cured and moving rapidly to packing houses; the second crop is curing satisfactorily, and with a few more days of favorable weather the entire raisin crop will be beyond danger. Prune drying is nearly completed; the quality of the fruit is much better than that of last season. There are still a few late grapes on the vines in some sections, which are being rapidly picked, shipped and sent to wineries. The fifth crop of alfalfa is being harvested in San Joaquin county, and alfalfa thrashing continues in Tulare county. Plowing and seeding are in progress in Merced and Stanislaus counties.

SOUTHERN CALIFORNIA.

Generally clear weather and abnormally high temperature prevailed most of the week, with occasional fogs along the coast. Bean harvest is nearly completed and thrashing is progressing rapidly; the crop is below expectations in most places. Sugar beet harvest is practically completed, and the Oxnard factory has closed; the crop is reported about the same as last season's. Wine grapes are moving rapidly, and late peaches are going to canneries. Raisin making and fruit drying are nearly completed. Oranges are in excellent condition; the trees are heavily laden with fruit of large size. Walnut picking continues.

A great storm is reported to be due on this coast in December. Shipping interests are cautioned in advance to prepare for it.

THE OLD HOME ON THE HILL.

There are voices ever singing of the loved and long ago,
And the sweetness of the music makes us glad to have it so.
But when memory holds me captive and my thoughts run as they will,
They revert with childish fondness to the old home on the hill.

I can see the tree tops waver, as the breezes linger low,
While the sunshine pales in glory to the mystic afterglow.
And the shadows hang so deeply in the streamlet by the mill,
As the moon spreads forth her grandeur, o'er the old home on the hill.

I can recollect emotions, thrills of joy and pulse of pain,
That my heart was keen in knowing as they flooded through my brain.
But the love lights shimmer richly, like the tide that'l never still,
Shedding beams of endless halo 'round the old home on the hill.

I am sailing o'er life's ocean with my Leader in command.
And he'll guide me when he pleases to my own, my native land.
But my frail heart often longeth, while mine eyes with rainbows fill.
For another happy meeting in the old home on the hill. —Slow-Go.

Determined to Wed.

Arnold Treat was thirty-five and an eminent man. When he spoke in court the people turned out to hear him and were spell bound at his eloquence. A number of young women set their caps for him, but he would have none of them.

At last he met Eugenia Duffield and was captured. Miss Duffield was twenty-eight and director on the boards of hospitals and helping-hand societies. She had a fine figure, a firm step and carried her head erect on her shoulders. Her administrative ability was remarkable and it was this that made her valuable as a manager.

When Miss Duffield and Mr. Treat announced their engagement the world said, "What a splendid match!"

All went well with the lovers till one day a suit was brought against one of the institutions of which the lady was managing director, and she put the case in the hands of Mr. Treat. In submitting it she told him the incidents leading up to the trouble, to which he listened attentively. Then she gave him the line of defense he was to pursue, to which he listened respectfully. She finished by stating what she conceived to be the law bearing on the case, and he appeared a trifle bored. As a last word she directed him to proceed in every particular on the lines she had laid down.

"Do I understand," he asked, "that I am to try the case as your assistant or your attorney?"

Miss Duffield without a word folded up the papers and marched away with the remark, "You'll not try it at all."

Before the end of a week it was announced that the engagement was broken. Nevertheless the breaking of it was a great disappointment to both Mr. Treat and Miss Duffield. It was finally renewed after she had acknowledged herself in the wrong, for her brother was a lawyer and told her she had acted like a fool. For awhile the couple were very happy. Their trouble came again, this time from the side of the man. He had a protegee, whom he endeavored to get into Miss Duffield's hospital. She informed him that under the rules the patient was not admissable, whereupon Mr. Treat remarked that he would apply at a hospital where there were more elastic rules.

"Do you mean to imply," asked Miss Duffield, "that our rules are not proper ones?"

"They are not such as I would approve. I am on the board at St. Luke's, you know."

"Our institution doesn't follow the leadership of St. Luke's by any means. I think you had beter take your patient to your own hospital."

"I did not ask your advice. I asked admittance for the patient at your hospital."

Immediately after this interview it was announced again that the engagement was broken. "That will never be a match," said a veteran matrimonial observer. "You might as well put two captains in command of the same ship."

However, the two lovers were miserable apart, and this time at the suit of the man they came together again. Then they concluded that once married they would learn to work in double harness and decided to make a plunge into matrimony, and the wedding day was set. One day Mr. Treat drove up to Miss Duffield's residence and, alighting from the cariage, ran up the steps and rang the bell.

"I have just heard," he said when his lady love came down, "that our wedding is to be the largest and most brilliant ever held in this city. This I hear from others, while I, the principal participant, have not been consulted."

"First," replied Miss Duffield, "I was not aware that you were to be the principal participant; second, I consider you on such an occasion without any rights whatever, and, third, the woman's will as to marriage ceremonies being absolute, I did not think it necessary to inform you."

"I think it necessary," said the groom expectant, flushing, "to inform you that I detest spectacular performances and would not consent to make a guy of myself on any account."

"You'll neither make a guy nor a groom of yourself with me," replied the lady. "We will consider this affair off for the third and last time."

The next step in this affair, after weeks of misery on the part of both, was a note from the man, which by a singular coincidence crossed one from the woman. The man's note asked for an interview; the woman's invited him to call. When they met the man began:

"I have called to say that I have found it impossible for me to live without you. I confess that I expected to find it impossible to live with you and have my own way about anything. Therefore I have called to beg for one more trial. The first time I attempt to have my own way you may break the engagement."

"I have come to a similar conclusion," said the woman. "I confess that I have been very miserable. I have sent for you to say that if you care to try it once more we will be married as privately as you wish."

"That is the woman's part. I am ready to submit to as resplendent an affair as you desire."

They were married before a few friends and went on their wedding trip. That was five years ago. They are married today and comparatively happy. But they do not live as married people usually live. The man lives at his club, the woman at her own home. He dines with her twice a week and frequently takes her to the opera or the theater.—Mary T. Pierson in Encinal.

SHE BOUGHT IT.

Peddler (opening his pack)—"I have here, madam, an improved rat trap, which—"

Woman of the House—"We are never troubled with rats."

"Which can also be used for cracking nuts—"

"We never use nuts of any kind."

"Or as a coffee roaster. Adjusted in this manner, it—"

"We always buy our coffee roasted."

"Just so. Reversing the wires that form the upper portion, and bringing down the side flaps, thus, we have a device for holding eggs when cooking—"

"We never eat eggs."

"And by folding these wire loops, as you see me doing now, it makes a handy arrangement for holding a small mirror—"

"Haven't the slightest use for such a thing."

"While, by adjusting another small mirror in this position, and another at this angle, as you will notice, and placing it in a kitchen window, for example, it has the curious effect of enabling the observer, seated at one side of the window and entirely out of sight, to see distinctly through any window that may be opposite, and to note what is going on inside, and all I ask for this most useful and comprehensive invention is 75 cents, which is about one-half—"

"I'll take it."—Evening Express.

HYGIENE OF THE HAIR.

In order to give to your hair the hygienic care which it demands it is necessary, ladies, that you should know:

First, that the scalp dislikes dampness, which soaks it, and is hurtful to its vitality.

Second, that the scalp requires constant airing, to assist the evaporation of prespiration and other secretions of the skin, which have as injurious an effect upon it as dampness.

Third, that both the scalp and the hair dislike violent twisting and pulling, which put their strength and solidity to a hard test.

These three fundamental principles being known, they should be remembered and applied in the best way, and as frequently as possible.—October Woman's Home Companion.

WE SHOULD NOT FORGET.

A mother who has laid away a golden-haired, blue-eyed daughter of seven summers, said recently, "Life has no charms for me, my love lies buried in the grave with Lillian." I wondered at the remark, for the lady has a kind and provident husband, a neat and well appointed home and sufficient of this world's goods to make her comfortable. But these blessings she has entirely forgotten in the loss of her little girl.

It did not appeal to her that the one she mourned as dead, is as much alive today as ever; that she does not "sleep under the flower decked mound they call her grave;" that somewhere in the confines of a sun-kissed sphere she is steadily progressing, spiritually developing into a being of beauty, intelligence and love. In the mother's view of death her child is lost to her and to her life, and mourning as she does, she sees no beauty in this lovely world. The song of birds does not greet her ear with melody of joy. The brilliant flowers do not tempt her eyes to linger on their loveliness. Kind friends do not awaken her to thoughts of happiness and love.

Why?

Because in her way of looking at so-called death she sees only eternal separation, isolation and sorrow. She does not comprehend the great fact that death, so-called, is not to any mortal nor to anything. She closes her eyes to the all important fact that when we leave our mortal form in this world, we but begin to live in a better, higher, broader sense, and in a world of matchless splendor and never ending growth and energy. "There is no death, what seems so is transition." There is no going out of life, for life is eternal. There is no cessation of work; for in the spheres above our earth plane there is energy unbounded. To believe other than this is to discredit the doctrine of immortality so clearly enunciated in the book of books—the bible—that has been man's g ide and hope for countless decades.

But this mother makes the further mistake of burying her affection in the grave and robbing the living, those entitled to it, of its worth. "There is nothing in all the world we can do for the dead," said Ingersoll, but everything may we do for the living.

When opportunities are so abundant to do good to others about us, it is a mistake to close our eyes and our hearts to those God-given conditions, for in the exercise of these grand opportunities we add joy to other lives and blessings to our own. We should not forget when sorrow overwhelms us and our sky is overcast with dark tempestuous clouds; when those we love "take wings and fly away," that we are not forgotten, but in our grief brought nearer to the life divine.

Let us not forget that we are ever in the eye of the Supreme Being, under whose infinite care we live now and shall live evermore.

"God gives his angels charge
Of those who sleep;
Yet does Himself a watch
And vigil keep
With those who lonely wake
And grieving weep."

A HORSE'S DEVOTION.

"One of the strangest instances of animal devotion of which I ever heard was that of the favorite horse of my brother, Major Frederick W. Matteson," said Mrs. Clara M. Doolittle, a tenement inspector, the other day. "During the civil war after my brother reached Corinth, Miss., as a major in the Illinois Yates sharpshooters, he was stricken with fever and soon died.

"During my brother's illness his favorite horse Sahib was tethered a mile away from the wilderness of tents in a small cleared enclosure. One morning the groom, who visited the horse daily, was unable to find it, and after searching for hours came to report the loss to my brother. Imagine his surprise to find the animal contentedly standing in the tent with its head touching my sick brother's breast.

"The horse had broken away from where it had been tied and found its way to the tent alone. It persisted in staying near the tent, and the soldiers, moved by its devotion, did not attempt to drive it away. A few days later Sahib, without a bridle, followed the ambulance which carried the body of his master. For three days after my brother's death the horse refused to touch food, and was inconsolable."—Chicago Inter-Ocean.

LITTLE BOY BLUE.

The little toy dog is covered with dust,
But sturdy and stanch he stands;
And the little toy soldier is red with rust,
And his musket moulds in his hands.
Time was when the little toy dog was new
And the soldier was passing fair,
And that was the time when our Little Boy Blue
Kissed them and put them there.

"Now, don't you go till I come," he said,
"And don't you make any noise."
So toddling off to his trundle bed
He dreampt of the pretty toys.
And as he was dreaming an angel song
Awakened our Little Boy Blue—
Oh, the years are many, the years are long,
But the little toy friends are true.

Aye, faithful to Little Boy Blue they stand,
Each in the same old place,
Awaiting the touch of a little hand,
The smile of a little face.
And they wonder, as waiting these long years through,
In the dust of that little chair,
What has become of our Little Boy Blue
Since he kissed and put them there.

Eugene Field.

PROFIT AND LOSS

The outlaws was thick around Toomstone county and I kep' a store there. I sold 'em goods and trusted 'em when they hadn't no money, for you kin trust two kinds o' people—them as is honest and them as is at open war with the rest o' the world. It's the middle classes that beats you. There was one on 'em—the outlaws, I mean—that I didn't want around, for he'd carried things too far and there was a price set on his head. That was Dandy Jim. Dandy Jim's head was worth $1000 to any man that could git the drop on him.

I was always a-figurin' how I could git him in a trap and git the reward. There wasn't no use in tryin' to do the job in an ord'nary way, for Jim was as cool as a cucumber and slicker 'n a greased pole. I'd have to fix some way o' gettin' a pint ahead. What I wanted was a confederate; some one to do the shootin' while I did the foolin'.

One day a young woman come to my place and wanted to work in my store.

I tole her I didn't want a woman, but she said she'd work for her board, and after talkin' to my wife about it I engaged her. She could do most anything, but she was handiest about keepin' my accounts. She must a' been a schoolmarm, for one day she took account o' stock and figured up and told me 'xactly what I was wo'th.

"If I could get Dandy Jim," I said to her, "and turn him in dead or alive I'd be wo'th $2000."

"But they say Dandy Jim's a hard man to take," she said.

"Maybe he'll come around here some day and I'll try it."

"How would you manage it?"

"If I know'd he was acomin' I'd post some un outside to cover him. Then if he got the drop on me I'd signal the outsider to shoot him."

"What kind of a signal would you give? He'd shoot you before you could make any signs."

"Well, he'd likely tell me to throw up my hands, and that would be as good a signal as any."

"You're purty smart," she said. "I didn't give you credit for so much sense."

One day the gal tole me that the stock was agittin' law, and if she was me she'd sell the balance and go and lay in a complete new outfit. She was sich a good business woman that I did whatever she said, and I got up a "sale" and cleaned out everything. It fetched just $1200 in money, and with this I concluded to put in the new outfit. The day before I went away I rode out to collect a debt of $50. I had a safe in which I kep' the $1200 on hand and didn't worry about it, for none o' the outlaws could open it and it was too heavy for 'em to carry away. The gal tole me I might's well leave her the combination in case any one wanted any bills paid, but I was too sharp for that. Not that I doubted her honesty.

Well, I got my $50, and when I was a-ridin' up to the store I see the gal a-comin' excited-like to meet me.

"What's up?" says I.

"Dandy Jim's there waitin' for you."

"Humph," says I. "What's he goin' to do with me? Kill me?"

"Oh, no; he won't kill you. If you was dead, who'd open the safe?"

"I see."

"You might do what you said you would if he came."

"What was that?"

"Have some one cover him when you go in and when he tells you to throw up your hands shoot him."

"There isn't a man about the place."

"Reckon I'll do. I'm as good a shot as any man."

Well, I posted her at a winder with a rifle right where she could see the man, then I walked into the house and the room where Dandy Jim was a-settin'. "Howdy, Jim," I says. "Howdy," says he. "Jim," says I, "there's $1000 offered for you. Reckon I might as well have it as any one." "How you goin' to git it?" he answers. "Well, there's two ways. One is dead and the other's alive—whichever you prefer." "I prefer dead," says he, "and considerin' I've got my hand on my gun I thinks it's you that's dead. I'll trouble you to throw up your hands." If I does that, I says, the drops on you, seein' I got a pal posted outside the winder to shoot you as soon as I raise an arm. It is a signal." "You're mighty smart," he says. "It's only takin' time by the forelock," says I. "Who have you got outside?" "One o' the best shots in Arizona, though nothin' but a woman." "Yes, and mighty shart if she is a woman." "How do you know that?" "Because she's my wife. I sent her here to git you to turn your stock into cash, then she sent for me to take it in." "Is that the game?" I asked, a cold chill runnin' down my spine. "You can find out," he say, "if you'll throw up your hands." "I'll do it," says I, "and if you're lyin' you'll pay for the deception with your life."

With that I throwed up both hands and the gal instead o' shootin' comes to the winder grinnin', and asks me if that was the signal and whether we hadn't better wait a spell, and if it wouldn't be cruel to shoot a man in cold blood. Then I knowed the game was up, so I tole 'em I'd open the safe—for it was plain I was a dead man if I didn't—and while the gal kep' me covered Jim took the plunder, includin' the $50 I'd just collected. Then the gal tuk my best horse and my wife's saddle, and as they galloped away she sung out:

"I made a mistake in the accounts. There's $12.50 to be charged up to profit and loss.—Frank Taylor Coyne.

HIS LITTLE SCHEME.

He was cutting an item from a newspaper. "It tells how a house was robbed, and I want to show it to my wife," he explained.

"What good will that do?" a friend inquired.

"A whole lot," was the reply. "You see, this house was robbed while a man was at church with his wife."

"Say!" exclaimed the friend, excitedly, "you havn't got a duplicate copy of that paper, have you? I want to show it to my wife."—Chicago Post.

Recipes...

GRAPE CREAM.—Stew one pound of grapes until soft, then strain through a coarse seive; add one cupful of sugar and a teaspoonful of gelatine dissolved in one-third or a cupful of boiling water. Do not chill, but let it become firm; beat the whites of three eggs stiff with sugar, mix them with a cupful of thick whipped cream, and pile irregularly on the top.

GRAPE SHERBET.—The Catawba and Delaware grapes are excellent for this. Wash the grapes and strain through a coarse cloth. To every quart of juice add a pint of water, the juice of an orange, and powdered sugar to taste. This may be partly frozen or merely chilled and served with chopped ice.

COOKING APPLES.—The apple is chief and sovereign of all the fruits, thinks a celebrated cook, and is adapted to food purposes as well as any other food product on the face of the wide, wide earth. Then revel in it while you may. There are limitless, irresistible apple receipts:

APPLE CUP CUSTARD.—Pare and core four good sized apples, steam them until tender, pass through a colander; add while hot a teaspoonful butter, yolks of four eggs, four tablespoonfuls sugar one cup milk. Turn this into baking cups, bake for tweny minutes. Beat the whites of the eggs until stiff, add sugar, beat again, heap over to the top of the cups, dust thickly with powdered sugar, and brown a moment in the oven before serving frizzling hot.

* * *

STRAWBERRY JAM CAKE.

One half cup buter, one cup sugar, one cup strawberry jam, three eggs, five spoonfuls sour cream (milk will answer) scant teaspoon of soda, one teaspoon cinnamon, one teaspoon of lemon extract, two and one-half cups flour. Bake in layers, put together with white frosting.

NO BOILED DINNERS.

The old custom of a boiled dinner for one day in the week and potatoes and cucumber pickles ad libitum the rest of the time has long since disappeared, and with it many of the people who followed it. Appetizing salads and well cooked vegetables are now daily partaken of in humble as well as in palatial homes, and are recognized as a component part of a dinner. This is in great measure due to the excellent teachings of cooking schools and domestic science classes in colleges; instruction which has revolutionized not only the vegetable idea, but has given us the why the old fashioned boiled dinner should be relegated as a dyspepsia producer.

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The Rurul Home...

The happiest life in the world is that of the country, and every where the dream of city people seems to be to have a nook of their own in the country, so strongly does rural life appeal to the educated and refined, that even with limited purses they seek the quiet pleasures that the farmer's wife and children often neither prize or understand how to use.

"Oh! be he King or Peasant—he is the happiest who in his home finds peace," says Gothe.

The sweet peace of the country—where the air is full of the warm scents of flowers and ripening seeds, and the music of the birds ushers in the morning and sings vespers at sunset. The approaches to a home may be made to add greatly to its dignity. The driveway should be wide and sweeping in broad curves, by making the entrance road not less than forty to sixty feet in width and ridging up a driveway in the center, the sides can be checked off and planted to alfalfa, this making a green border pleasing to the eye, and also gives a return for the use of the land. On each side trees should be planted—now as to the variety that must depend on the location. We like palms best, as they give the stately effect of a colonnade, their brown trunks with the gray clinging dead leaves and the half arch of the green leaves of the springing top garden is built, they are in harmony, for this same reason, growing vines of their trunks by softening the lines is undesirable, for by making beautiful the individual, the classic outline of the colonnade is lost.

* * *

When the avenue reaches the lawn, and the trees around the dwelling, the stiff formality should be softened into the mass of foliage by setting two or three palms out of line and as part of the garden, for, after the set order of trees planted at regular distance apart, if the repose of the garden is not gently led into, there is a jar like music out of tune. Somewhere in the Hindu writers, there is a tribute to the palm, to its value as the friend of man. It ends with the beautiful symbolism that aloft towers the brown trunks like sturdy manhood, softened and ripened judgment is shown by the long grey beards and yet the vigor of youth springs upward in the waving leaves that reach toward the sky for Buddha's blessing. The elm, the pepper and the umbrella trees are excellent for avenue planting. The pepper is always graceful and attractive, while the elm arches over and completely interlocks in a few years—making a green tunnel to drive through. The elm is also endeared to many by the magnificent avenues of the collegiate intsitutions of New England. The grevillea is not a good avenue tree as it makes too much litter. The acacias are apt to be irregular in growth, so they do not make the avenue formal enough. The eucalyptus is so good that it seems a pity to say it is often a mistake to plant it, for it shades the roadway and in a wet winter prevents the ground from drying out. Where the place is small, fruit trees as the orange, lemon, fig, apricot and olive are used, if sprayed and cultivated with the same care the orchard receives, are good, but too often they are negelected and allowed to be covered with pests. The driveways are best used as paths and the spaces for planting not cut up into intricate masses, for walks must be kept in order and the expense of a walk will keep several flower beds.

* * *

Lawns are most pleasing when sweeping and not of regular outline. If the ground is irregular, soften off the abrupt places, but do not level it, or make into the shape of an inverted basin. An abomination commonly seen in California is having a straight entrance drive coming in and dividing into two parts, circling around the poor deformed lawn that is high in the center and slopes to the driveway on every side with the greatest regularity as though an immense pudding tied in a bag had been dumped down. While lawns, according to many landscape gardners should be free from trees and shrubs, it is not always possible in California, for in the interior valleys even Bermuda grass will sunburn if not shaded part of the day. Then the excessive amount of water required makes a little shading desirable. By studying the mountain meadows where large trees stand irregularly and the shrubbery hugs the sides, breaking into irregular lines the edges a good idea of natural lawn making is gained. Here the grasses creep lovingly to the foot of the largest trees.

* * *

The euclypts come first in the ornamental planting of a large place and the three great divisions are popularly known in Australia, the the stringy barks, the iron barks and the boxwoods. The stringy barks contain many that are lofty and graceful trees, but are not desirable close to the buildings as sparks often set the clinging bark on fire, and the flames will run up them like a torch, in a minute the tree is on fire in twenty or thirty places. Why do we negelect the oaks? They grow readily in nearly every part of the state and after they are once started, will grow as rapidly as the black walnut or the linden.

Now, the acacias. There ars at least a dozen varieties that are desirable for flowers and foliage, that every one should plant. The grevillea is useful in the background. Sycamore, walnut, buckeye and camphor trees and many others that would turn several papers as long as this into mere catalogues deserve to be mentioned.

* * *

Long lines of rose bushes following the curving entrance driveway are easily kept cultivated and if interspersed by palms, are agreeably diversified, if oleanders, crepe myrtles and other shrubs lead from them to the larger trees, the effect is natural. The roses are best left unshaded in the open ground, away from the large trees. The roses growing low, with the palms towering over them. These palms can have ivy, trumpet creeper and maderia vines clinging to them, adding to the picturesque wildness of the scene. Around the house it is desirable often to screen off at the back a place for ash barrels, clothes lines and the like necessary but not sightly uses. There are many desirable shrubs that can be massed so as to completely veil the background. Then there are hedges, that of Monterey cypress, though that dies badly in spots at times. The pivets are good and not at all common, while pomegranates in either the double flowering or the sweet fruited varieties are beautiful. Perahps after all the most beautiful screen is made of climbing vines on a high wire netting; the trumpet creepers, clematis, jessamine, honey suckles, have few pests and only need water to be thrifty. With these vines for a standby, try a few of the more fancy ones recommended by the florist. The briars including the old fashioned sweet one, with the lovely strains originated by Lord Penzance, when trained to wire netting are beautiful. The single and semi-double flowers so strongly appeal to the artistic sense that it is impossible not to take to water color sketching. The crimson rambler, when grown on a wire screen is at its best and fully justifies the seemingly extravagant laudations it has received. Grown in this way it is free from mildew, aphids and red spiders.

When the inexhaustible possibilities of country life crowd into the mind, how can we help exclaiming, the happiest woman on earth should be the farmer's wife, for she is the true home maker, for she can build her nest like a bird in a garden of flowers, with time to think and time to live. Society leaves one very empty, for the mature brain refuses to act when fed with prattle. All those met are mere acquaintances—for friendships are perfected only by time, and what are the shifting masses of people in the world compared to a friendship like that of Johnathan for David. Warm friends grow up among the flowers and often a few roses will express sympathy better than words.—Mrs. M. E. Sherman.

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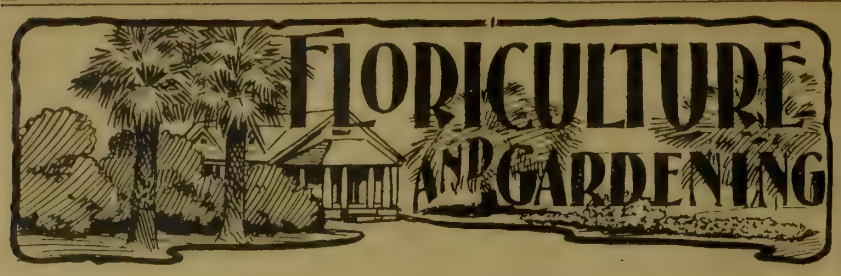


BY ERNEST BRAUNTON, LOS ANGELES, CAL.

SPANISH CHESTNUT.

W. J. G., Claremont, asks if the chestnut so often recommended by the writer is the Japanese species.

It is not. It is variously known as Spanish, Italian, French or European chestnut (Castanea sativa). It is a larger tree, has a larger leaf and bears a better flavored nut than the Japanese species (C. crenata). The only point in favor of the latter is that it bears at a much lesser age.

The same correspondent wishes an erect, compact growing, flowering shrub, twenty to thirty feet high, of the habit of the Irish Juniper.

There are few flowering shrubs of such habit, though the Spanish broom (Spartium junceum) comes as near to it as anything that is really desirable. The columnar varieties of Juniper, Yew, or Cypress are by far the best if a narrow, upright growth is desired. Of these the Irish Yew is the finest in appearance, though slowest of growth.

SNAPDRAGONS.

Few who know the snapdragon of a dozen years ago would readily recognize some of the latest improved sorts as being of the same species, so much have they been improved. Both the spike and the individual flower have been greatly improved in size and form, and as for color, they run from pure white through the pinks and on to the deepest crimson, while others are shades of yellow and of purple. One strain of seeds give a majority of the flowers beautifully variegated. You may buy them in separate colors in any large seed store and now is a good time to plant them. If you find some colors that you fancy very much, they are easily propagated from cuttings in sand. Cuttings for this purpose should be the soft new tips, though not those which show flower buds. Snapdragons do well in California except where an occasional plant is attacked by a peculiar rust for which there is no remedy but to pull the plant out.

"Only a flower nodding;
A lowly thing indeed,
Only a breath of heaven,
Grown from a flower seed."

For plants to make the most rapid growth, the soil must be kept in such condition as will allow of the plant to most readily send its rootlets through the soil to assimilate their food; keeping the soil pure and mellow by cultivation is the only known, and commonly practiced method of accomplishing this result. Plants cannot grow without food, and the food must be in such shape that they can reach and assimilate it.

The Glendale Improvement Association meets the first Thursday night in November and Mr. Ernest Braunton will address it on "Street and Ornamental Trees."

The school children of Kansas City were, last and this year, encouraged to raise flowers under the direction of the Woman's Auxiliary of the Manufacturers' Association. It was a success and now they are receiving liberal pin-money from the sale of seeds.

The recent Florida tornado is reported to have distroyed 25 per cent. of the fruit crop in that state.

Ontario has organized a chamber of commerce.

A LARGE INCOME FROM ROSES.

A large income in roses is attained by the octogenarian dean of Rochester in England, who spends his spare moments in the cultivation of this beautiful flower. A London dispatch to the Philadelphia Public Ledger says, in referring to the venerable dean: "Combining deep learning with a large fund of deep wit and broad humor, he can spare time from his heavy ecclesiastical duties to add $5000 a year to his income by growing roses in the musty old town so well known to the lovers of Dickens. For sixty years the dean has been studying the national flower, and during that time as many as 300 varieties have passed through his hands. He is his own gardener, even at his present advanced age, and it is only the more laborious part of the work that he intrusts to other hands. As early as 7 o'clock in the morning the dean may be seen in the garden looking after his pets. His method of disposing of his roses is through a London wholesale florist, who cuts them at Rochester under the critical eye of the dean and removes them to Covent Garden market, where they are sold at prodigious rates to west end clubs and restaurants. Many of the varieties are so rare that it is no uncommon thing for a single rose to fetch as much as $2."

BULBS AT WORLD'S FAIR FILL 16 ACRES.

Fifty thousand cannas, with their gorgeous array of colors; great caladiums, with their mammoth foliage; modest dahlias, with their dainty colored petals, and beds of tuberoses, with their wax-like flowers and intense fragrance, combine to make a floral exhibit that will cover sixteen acres of ground on the World's Fair site at St. Louis.

A North Carolina company furnished the bulbs for this display and Joseph H. Hadkinson, superintendent of outdoor planting for the Department of Horticulture, has charge of the installation. The plants will not be seen in one mammoth bed or tract, but will be scattered in well modeled groups over the northern and eastern slopes of Agricultural Hill.

The tuberose bulbs will be so selected and planted that commencing with the early summer there will be a profusion of blossoms, and fresh supplies will constantly succeed one another until frost comes. The caladiums are grown mainly for their foliage. A large group of these almost tropical plants will be at the corner of the terrace 10 feet high and a quarter or a mile long that skirts the mammoth palace of agriculture on the eastern side.

That the dahlia may no longer be considered a "back-yard" flower will be demonstrated by the prominent position alloted to it in the World's Fair garden, by far the largest and most pretentious ever seen at any international exposition.—Florists' Exchange.

PENNISETUM SEED.

Editor Cultivator:—Can you inform me where I can buy seed enough of pennisetum, (the new cattle food) to plant half an acre, kind of soil best adapted to it and the price of seed per pound.—F. T. B., Windsor, Cal.

Any seed house which advertises in the Cultivator will furnish you the seed or procure it for you.

PROSPERITY OF ARROYO GRANDE.

Editor Cultivator: This valley is in a very prosperous condition. Fruit of all kinds have yielded good returns, and the apple crop now being gathered is large and the fruit of fine quality. The beet crop is large and the percentage in sugar high. The bean crop is not up to the average in quantity owing to unusually hot weather when the beans were green. Large quantities of grain pass here daily from the southern portion of the county, bound for Port Harford, taxing the hauling capacity of the P. C. R. R. Hay is not abundant but there is sufficient for home use. All things considered the farmers around Arroyo Grande are well satisfied with the year's returns.

The Cultivator retains its popularity here and is gaining friends all the time.

Kindness to animals is more than kindness; it is justice.

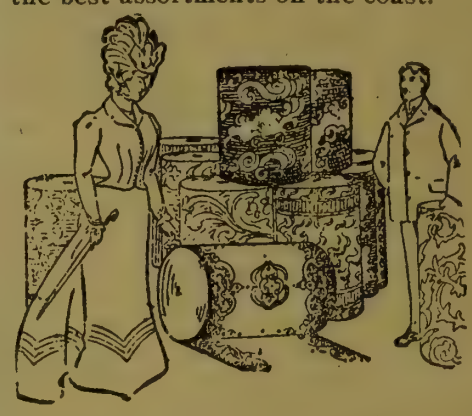
I. T. MARTIN Furniture and Carpet House
531-3-5 S. SPRING ST.
The place to buy good Furniture, Carpets, Mattings and Stoves Cheap. 3 x 7 Window Shades 35c.
ALL GOODS GUARANTEED AS REPRESENTED

We'll Collect That Bill AND NO FEE UNLESS SUCCESSFUL. Collections made the world over. Prompt reports and returns. Look after property and business for non-resident clients. Prove claims. Attend meetings of creditors. Recovery of property and collections are specialties with us. Commercial information and ratings. Write us today.
Riverside Mercantile Agency, Riverside Cal

Dependable Furniture at a Fair Price

Carpet Choosing

Should not be done hurriedly, without consideration and under unfavorable circumstances. Every precaution must be taken to make suitable selections for each room. The kinds, the qualities, the patterns, the colorings and the prices must all be given special thought. Our large carpet department contains one of the best assortments on the coast.



Body Brussels, Axminsters, Wiltons, Velvets, Moquettes, Ingrains, Etc.

All in the latest patterns and best colorings. They are priced as low as is consistent with good qualities. This department is placed on the fourth floor, where we have the best light and every advantage for showing our stock. We can supply any carpet need. If you cannot call write what you need.

"All Prices Marked in Plain Figures."

Niles Pease Furniture Co.

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"The Quality Store."

TOP COATS

These cool nights make a man feel the need of a top coat. We are ready for you with a bright new stock of the very latest styles and patterns approved by good dressers. Come see them and try on a few. We can please you, without doubt. Prices range from

$10 to $42.50.

Fall Suits, $10 to $40

Mail orders carefully filled. Self-Measurement Blanks free upon application.

Mullen & Bluett Clothing Co.

First and Spring, Los Angeles

The annual transportation scare is on again, and shippers of beans, nuts, dried fruits and other commodities, are wondering where they are to get cars to transport their products to market. The railroads have at times experienced great difficulty in handling California fruits during the rush of the season, but this year there is promise of enough cars to handle the business of the state.

The Santa Maria Times thinks that the walnut crop will be almost an average and prices will be better than they have ever been.

The market on apricots and peaches was a little stronger this week.

A comparison has been made of the prices received by the California prune growers at 2¾ cents per pound, and those obtained by French prune growers at the prices they sold at this year. The table was prepared by the San Jose Mercury and is as follows:

Per Ton of 2000 Pounds.

	French.	California
50 to 60	$280.20	$80.00
60 to 70	244.80	70.00
60 to 70	2[illegible].80	70 00
70 to 80	203.04	60.00
80 to 90	168.06	50.00
90 to 100	150.08	40.00

Chico Nursery Co.
(Incorporated)
BIG STOCK OF
Resistant Grapes
Fruit Trees
Shade Trees
Ornamental Trees
Vines Shrubs
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Sturdy Stock
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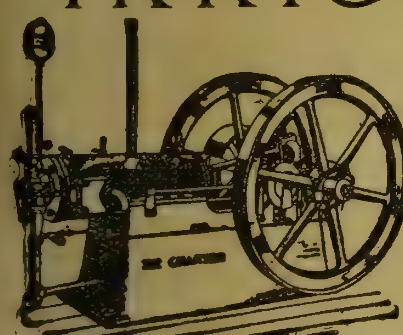
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TO SUIT CONDITIONS
GASOLINE OR STEAM POWER
We deal in all Kinds of Machines and Machine Tools, Pipe, Hose, Belting, Pulleys.
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Tree Spray Distillate
Not an emulsion of oil and caustic soda, but a special distillation of oil from which all asphalt and other deleterious substances have been removed. Mix with water and apply with spraying apparatus that gives a thorough and constant agitation to the liquid—when properly done we guarantee that it will destroy all insect life attacking either citrus or deciduous fruit trees and not
Spot Fruit or Hurt Tree
Cheapest and Best Insecticide. We also manufacture Gas Engine and Stove Distillate, Lubricating Oils, Etc. We solicit your correspondence and orders.
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3-HORSE POWER
Webster Gasoline Engine.
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.
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WIRE FENCE
HOG CATTLE POULTRY NETTING BARB WIRE
WEST COAST WIRE AND IRON WORKS
19 FREMONT ST. SAN FRANCISCO.

Los Angeles Markets.

Los Angeles, Cal., Oct. 22.

The local produce markets have maintained a steady figure all the week. There has been little change in prices and there seems none in sight. Butter and eggs are firm. Good potatoes command firm prices. Dried fruits and nuts active. Apples and grapes in active demand. Poultry wanted. Hay and grain firm.

Butter.

B. of T. Creamery, per 2lb roll		70
So. California, dairy, do	.65	67½
Cooking	52½	57
Cold storage	.50	60

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	.16	17
Swiss	.13	
Imported	.28	

Eggs.

Fresh Ranch	.34	.35
Fresh Eastern	.26	.27
Store, case count	.24	.25

Potatoes.

River, cwt		.90
Salinas, do		1.40
Local, do	.50	1.00
Sweet Potatoes		1.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, yellow, cwt		1.00
Beets, per 100 lbs		1.00
Cabbage, per 100 lbs		90
Carrots, per sack		90
Chilles, green per lb		.03
Lettuce, per sack	.25	

Fruits; Fresh.

White figs, 20-lb box		.60
Black figs, 20-lb box		.75
Strawberries, box, fancy	.05	.08
Pears, northern, Bartletts, bx 40 lbs		1.50
Peaches, per box	.60	.75
Limes, per 100	.90	1.25
Northern apples, 40 lbs	.75	1.25
Four tier belleflower		1.25
Local, box 30 lbs	.30	.60

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08
Peaches, per box	.40	.75
Peaches, per box	.40	.50
Local belleflower, 30 lbs		.60
Northern apples, 40 lbs	.50	.65

Poultry.

Spring Chickens	.15	18
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa	10.00	12.00
Corn		1.25
Barley		1.02½
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.30
Feed Corn Meal		1.50
Middlings		1.45
Cracked Corn		1.45
Oil Cake Meal	1.65	1.75
Chicken Wheat		1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, Nov. 21, 1903.

The week has been signalized by a steady tone in the butter market. Better grades of Creamery have commanded stiff prices, but the cheaper article has proved disappointing. Trading in cheap butter was slow all the week and prices were sluggish.

BUTTER—Per lb:

Creamery, extras	.29 @30
Creamery, good to fancy	.26 @28
Dairy extras	.24 @25
Dairy choice	.22 @23
Store	.18 @20
California Storage	.24 @27
Eastern Creamery	.23 @25

CHEESE—Per lb:

Cal. Creamery, mild new, extra	.14 @15
Cal. Creamery, mild new, choice	.13½@14
Young America	.14 15½
Eastern, New York Cream, Cheddars and flats, new	.14½@16

Eggs and Poultry.

The light arrivals of Ranch Eggs and the briskness of the demand caused a further improvement in the demand and a 2 point advance was effective in values for selected offerings. Storage Eggs naturally shared in the improvement and there was a general hardening of values for both local and Eastern descriptions.

EGGS—Per doz:

Ranch, selected large	.52 @53
Ranch, good to choice	.45 @50
Store	Nominal
California storage	.30 @33
Eastern	.25 @30

Trade in the Poultry market continued slow most of the week and the general tone leaned toward easiness at the prevailing prices. Fat Hens, large Young Turkeys and Young Pigeons were the favored descriptions in local stock and brought up to the top quotations when sales were effected.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $4.50@5; Fryers, $3.50@3; Broilers, large, $3@3.50; small, $2.50@4; Hens, small, $4@5; large, $5.50@6; Ducks, per doz, old, $4.50@5; young, $5@6; Turkeys, young, per lb., 19@22c; old, 14@17c; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz., young, $2@2.25; do, old, $1@1.25.

Fruits and Vegetables.

No great change marked the quotations in this department during the week. Deciduous fruits showed a pretty firm market basis and prices were generally well maintained.

APPLES—Per box, common to choice, 25@85c; fancy, $1@1.25.

PEACHES—Per box, nominal.

PEARS—Per box. Winter Nellis, $1@1.25; other varieties, per box, 35@75c.

PLUMS—Coe's late red, pr box or crate, 40@65c.

FIGS—Per box, nominal.

CANTALOUPES—Per crate, $1@1.50.

NUTMEG MELONS—Per box, 65@90c.

WATERMELONS—Each, 5@15c.

POMEGRANATES—Per box, 65@2.50 as to size of box.

PERSIMMONS—Per box, 75c@$1.

QUINCES—Per box, 40@65c.

BERRIES—Per chest: Strawberries, Longworth, $6@10; large varieties, $1.50@6; Raspberries, $4@6; Huckleberris, per lb, 7@8c; Cranberries, per bbl., Cape Cod, $9.50; Oregon, per box, $2.50@3.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, nominal; Valencias, $1@2.50; Lemons, $1@3; extra, $3.50; Grape Fruit, $1.50@2.50; Limes, $4@4.50.

There was no special change in the market for vegetables, Potatoes showing no particular demand. The market may be classed easy and prices nominal.

VEGETABLES—Tomatoes, per box, 25@50c; Green Peppers, per box, Bell, 50@75c; Chile, 40@50c; String Beans, per lb., 2@2½c; Wax, 3@4c; Lima, per lb., 2½@3½c; Green Peas, per lb., 2½@3½c; Egg Plant, per box, 40@60c; Summer Squash, per box, 35@50c; Cucumbers, per box, 35@50c; Garlic, per lb, 3@4c; Okra, per box, 75@90c; Marrowfat Squash, per ton, $10@$12.50.

ONIONS—Yellow, pr ctl., 80@85c.

POTATOES—Per ctl: River Burbanks, 50c@75c; Earl Rose, nominal; River Rds, 65@75c; Salinas Burbanks, $1.25@1.45; Oregon Burbanks, 75@85c; Sweet Potatoes, $1.25.

Dried Fruits, Nuts, Etc.

Interest in Dried Fruits at present is less keen than a week ago, but as supplies of the leading descriptions are well concentrated in strong hands the market continues on a firm basis at previous prices. The decline in Raisins was generally welcomed by buyers, and dealers are now busily engaged in making refund to large jobbers.

DRIE DFRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 5@6c; Sun Dried, 3½@4c.

Apricots—Royal, fancy, 9½@10c; choice, 8@8½c; Moorparks, choice, 10@12c.

Peaches—Choice, 5¼@6½c; fancy, 8½@9c. peeled, in boxes, nominal.

Pears—Choice, 6½@7c; fancy, 8½@9c.

Plums—Pitted, 5@7c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 3@3¼c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Black, 4@4½c.

NUTS—Per lb: California Almonds, hard shells, 8@8½c; soft shells, 8@8½c; soft shells, 10@11c; paper shells, 11@12c; standard, 9@9¾c;

Pecans, 11@13c;Pinenuts, nominal; Peanuts, Eastern, 6@6½c; do, California, nominal; Brazil, 10@11c; Filbert, 10@11c; California Walnuts, soft shells, No. 1, 13½c; do, No. 2, 11c; hard shell No. 1, 13c; do, No. 2, 11c; Hickory, nominal;; Chestnut, California, 10@15c; Cocoanuts, $4.50@5 per hundred.

Live Stock.

San Francisco Chronicle says: Supplies of Cows and Heifers continue liberal but, under the reduced prices, the movement is of larger volume and the market is less depressed. Hogs are in increased supply, and, in sympahty with the easier market for Pork Products, are quoted weaker. Prices, however, show no change, but the outside rate is an extreme for the best offerings. Other Live Stock is in steady demand at former prices.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6½@7c; No. 1 Cows, and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½@4c, gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb., live weight.

HOGS—Per lb: Hard grain fed, weighing alive 140 lbs. and over, 5½@5¾c; weighing under 130 lbs, 5¼@5½c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

FRESH MEATS.

Business in the market for Fresh Meats was purely of a routine character yesterday, but as supplies were not excessive the appearing prices were well sustained and first quality offerings sold well up to the maximum figures. Values for Mutton and Lamb show a fractional decline.

BEEF—Per lb: No. 1 Steers, 7@7¼c; do, second quality, 6½@6¾c; No. 1 heavy, 7@7¼c; thin, 6@6½c; No. 1 Cows and Heifers, 6@6½c; second quality, 5½@6c; thin, 4@5c.

VEAL—Per lb: Heavy, 6½@7c; light, 86c@9½c; poor Calves, 6@6½c.

MUTTON—Per lb: Light Wethers, 8@8½c; do, Ewes, 7½@8c; heavy Wethers, 8c; Ewes, 7@7½c.

SPRING LAMB—Per lb., 8½@9½c.

DRESSED HOGGS—Per lb., 8½c.

Retail quotations for Meats, as furnished by the San Francisco Retail Butchers' Protective Asociation, are as follows:

BEEF—Prime Roast, 15@18c; Porterhouse Steak, 18@22½c; Tenderloin Steak, 15@18c; Sirloin Steak, 12½@15c; Top Round Steak, 12½c; Beef Stew, 10c; Corned Beef, 8@10c, Soup Meat, 4@10c.

MUTTON—Leg, 15c; shoulder, 10@11c; Stew, 8@10c; Prime chops, 12½@20c.

SPRING LAMB—Chops, 25c; Hindquarter, $1.25@1.50;; Forequarter, $1@1.25.

PORK—Loin Roast, 15@18c; Leg Roast, 12½@14c; Shoulder Roast, 10@12½c; Chops, 15@18c.

VEAL—Loin Roast, 15@20c; Shoulder Roast, 12½@15c; Chops or Cutlets, 15@20c; Stew, 12½@15c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13@$16.50; Wheat and Oat, $13@15.50; Oat, $11.50@14.50; Barley, $10@13; Clover, $9.50@$11; Alfalfa, $9.50@12; Stock, $8.50@10.50.

STRAW—Good to choice, per bale, 55@65c.

FEED CORN MEAL—Choice grades, per ton, $30@31.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26.50@29.

BRAN—Per ton, $22@23.

CRACKED CORN—Choice quality, per ton, $30.50@$31.50.

OIL CAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BEANS—Prices per ctl: Large Whites, $2.50@2.85; small do, $3@3.25; Red, $2.90@3; Pink, $2.40@2.70; Bayo, $2.35@2.65; Blackeyes, $2.25@2.65; Red Kidneys, $4.25; Limas, $3.05@$3.20.

Hops.

The price for new crop is 20@22½c, according to quality.

Wool.

Fall clip, per lb.: California, Plains, 8@10c; Foothills, 10@12c; Middle Country, 11@13c; San Joaquin Lambs', 9@11c; Northern Free 11@12c; do, Defective, 10@11c; Humboldt and Mendocino, 1214c; Nevada, 13@15c; Oregon, 17@19c.

Eastern Markets.

Grain and Produce.

CHICAGO, October 21.—There was good demand from commission houses for both December and May Wheat, early in the session, and with offerings quite light the market took on a strong tone, December advancing to 81 after opening a shade to ⅜ higher, at 80@80⅝.

The leading futures closed as follows:

	Closing.
Wheat, No. 2—	
December (new)	80⅛
May	78⅝
Corn, No. 2—	
October	43½
December	43¾
May	42½
Oats, No. 2—	
October	35⅝
December	35⅝
May	36¼

Cash quotations were as follows: Flour was steady; No. 3 Spring Wheat, 84; No. 2 Red, 81½@82; No. 2 Corn, 43¾; No. 2 Yellow, 44¾@45½; No. 2 Oats, 45⅝; No. 3 White, 35@37½; No. 2 Rye, 56½; good Feeding Barley, 43@44; fair to choice malting, 47@54; No. 1 Flax Seed, 93½; No. 1 Northwestern, $1.00; Mess Pork, per bbl., $11.10@11.12½; Lard, per 100 lbs., $6.50@6.55; Short Ribs, sides (loose), $7.50@$7.55; Clover, contract grade, $10.75.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	40,700	22,800
Wheat, bushels	261,100	288,800
Corn, "	441,400	283,500
Oats, "	597,000	215,800
Rye, "	9,500	117,400
Barley, "	159,900	99,700

Chicago Live Stock.

CHICAGO, October 21.—Cattle—Receipts, 25,000; Texans, 4500; nominal; good to prime steers, $5.10@5.60; poor to medium, $$3.60@4.60; Stockers and Feeders, $2.25@4.10; Cows, $1.35@4.40; Heifers, $2.00@4.85; Canners, $1.35@$2.50; Bulls, $2.00@4.50; Calves, $2.00@7.35; Texas fed Steers, $2.75@3.50; Western Steers, $3.00@4.60. Hogs—Receipts, today, 17,000; tomorrow, 16,000; 5@10c higher; mixed and butchers, 5.35@5.65; good to choice heavy, 5.30@5.50; rough heavy, 4.90@5.25; light, 5.25@5.65; bulk of sales, 5.25@5.40. Sheep—Receipts 32,000; sheep and lambs slow; good to choice wethers, $3.00@3.75; fair to choice mixed, $2.00@2.75; western sheep, $2.25@4.00; native lambs $3.25@5.65; western lambs, 3.75@5.25.

California Dried Fruits.

NEW YORK, October 21.—The market for evaporated apples was firm for futures, with November-December delivery quoted at 5⅝@5¾. Spot supplies of new fruit are in light compass and values uncertain. Common are quoted at 4@5½; prime at 5¾@6; choice at 6@6½, and fancy, 6¾@7. Spot prunes remain quiet. Quotations range from 3½@7 for all grades. Apricots are meeting with a little better demand, and rule steady. Choice are quoted at 10@10½, and fancy at 11@12½. Peaches quiet. Choice are quoted at 7¼@7¾; extra choice at 7¾@8½, and fancy at 9¼@10¼.

CITRUS MARKETS

NEW YORK MARKET.

One interesting feature of the fruit market this week has been the arrival of the first California crop of oranges for the season. They were large and fairly well colored. They sold readily at $5.00 per box.

Offerings have been light so far this week, owing to the desire for new oranges. Four carloads came in on Tuesday and sold quickly.

Some Florida oranges are now coming in, but they are green and not wanted. Regular receipts are expected about November 1. The quality of the crop is reported fine, and later advices say the crop will be 1,700,000 boxes, being 75 per cent. larger than last year. Growers are said to intend holding back until the fruit is fully matured.

No California lemons have arrived in some weeks and none are reported received this season The foreign lemons are in small supply and the market is very strong, though it is mostly local.

Carload shipments of citrus fruits from Southern California to eastern points, the season beginning November 1, 1902: 22,298.

AUCTIONS.

CULTIVATOR TRICK

CLEVELAND, Oct. 12.

Market steady.

S. T. Ft. Exchange. Red Fame Valencias $4. High Fyler $3.90, Sierra Madre lemons, $4.65, Red Fame lemons $4.30.

NEW YORK, Oct. 13.

C. C. U. Riverside, Favorite Seedless. Grape fruit 10 per cent. decay, $1.25, Favorite seedlings, 10 per cent. decay. $1.55.

NEW YORK, Oct. 14.

C. C. U. Covina, Topaz Valencias, $2.95. Sapphire, $3.35. Sunrise, $2.80. Amethyst, $3.05.

PHILADELPHIA, Oct. 14.

Market strong on Valencias.

Riverside Fruit Exchange. Fiesta Valencias $3.05.

BOSTON, Oct. 14.

Market steady.

Covina Fruit Exchange. Standard Valencias $3.05.

PITTSBURG, Oct. 14.

Market steady.

C. C. U. Riverside. Daisy lemons. $2.80. Trumpeter, 20 per cent. decay, $2.85.

NEW YORK, Oct. 15.

C. C. U. Riverside. Our Favorite Valencias. $3.00.

PITTSBURG, Oct. 16.

Market advancing.

C. C. U. Covina. Sapphire Valencias. $3.10.

NEW YORK, Oct. 16.

Riverside Fruit Exchange. Blue Mountain Valencias, $2.95. Red Mountain $2.80.

RAISIN CROP.

Rufus Lane, U. S. Consul, Smyrna, reports a decline in prices. Arrivals up to date 13,000 tons, of which 10,000 have been sold. Sultanas have been damaged by rain, which is the principal cause of the probable decline in prices. Red and Black raisins are fairly large and not much damaged. On them there will probably be no decline in prices.

SUMMONS.
No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.
(Seal) By C. O. Winters, Deputy Clerk.

SUMMONS.
No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.
By C. O. Winters. Deputy Clerk.

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to lay well they should be fed well; that is, the right kind of feed, the feed that the hens can easily digest and turn into eggs. Every egg contains exactly the same kind of material, and the nearer we furnish the hen with exactly the right material in the right proportion and fix it so that it is easily digested, the more eggs the hens are likely to lay. Thousands of hens have little eggs of which only a few are laid because they do not have the proper food. Some things used in making Coulson's Balanced Ration Egg Food are: Best heavy oats ground into meal. These are then bolted over screens to get out as much of the hulls as possible (these hulls are sold for cow feed.) The fine oat meal makes the best kind of feed for eggs. Also use ground Chevalier barley, known as beardless barley. Also shorts and middlings, pea meal, cottonseed meal, pure flax seed meal, fresh raw ground bone, pure deodorized, dried beef blood ground fine, fine hen's teeth, granulated charred bone, powdered willow charcoal, and a little red pepper, ground ginger root, ground Foenugreek seed, iron tonic, etc. All weighed out in the right proportions and thoroughly mixed together ready to feed. All you have to do is to stir up with water and give a little green stuff of some kind.

This is a very rich mash food and it is only necessary to feed it once a day, either in the morning or at noon, and at night feed whole grain.

There is some fine grit mixed with this food to keep the hens from eating it too fast and to help digest it. This is certainly one of the very best rations for egg production and the cost is not much.

One of our customers has about 2400 hens. He feeds them twice a day only. One meal in the morning he gives them all they will eat of Coulson's egg food and at night he feeds them whole grain. 140 pounds of Coulson's Egg Food is all it takes to feed these 2400 hens. 140 pounds of this food costs about $2.75; so the cost is less than 15 cents a hundred to feed the hens all they can eat of it for one-half a day's rations. The egg production of this flock has increased an extra 300 dozen of eggs this month.

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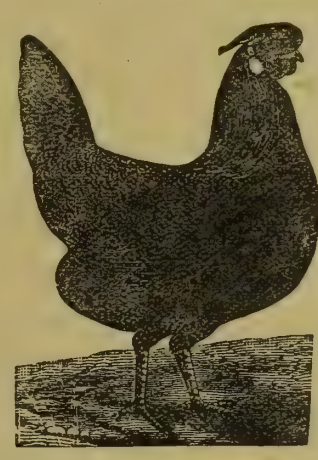
A hen cannot eat as much in weight of Coulson's Egg Food as she would of ordinary food, because Coulson's Egg Food is so rich and more substantial and so it is really cheaper than any other kind of food that you can feed.

And the hens will be healthier and produce more eggs during the year. Remember this feed is so rich that it

is only necessary to feed it as a mash once a day.

Nothing venture, nothing gain! Don't be afraid to try it. You have to buy some kind of food and a few cents more spent on a sack of good rich food



may make your hens lay a great many more eggs.

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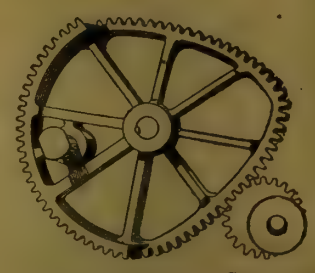

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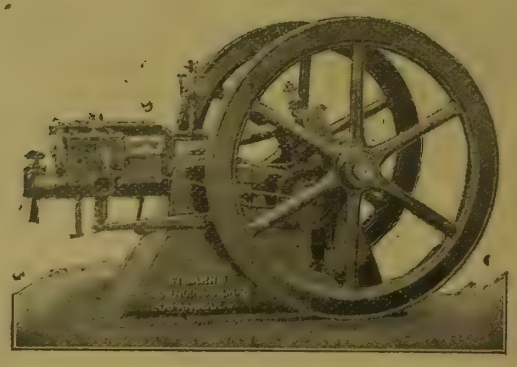

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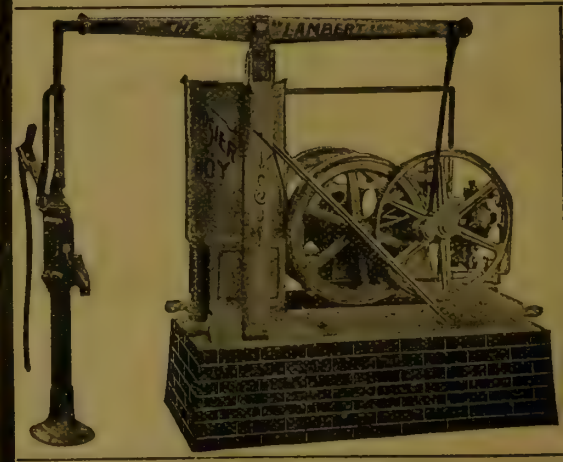

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LOS ANGELES SAN FRANCISCO

OCTOBER 30, 1903

Dairy Scene in Mendocino County.

Dairy Scene in Los Angeles County.

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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 18 LOS ANGELES, CAL., FRIDAY, OCTOBER 30, 1903 Subscription $1 a Year

. . . Dairy Farming in California . . .

MRS. M. E. SHERMAN, FRESNO

Butter and cheese making are fully discussed from the creamery standpoint at the dairy associations and the butter makers conventions; to the enlightenment of those having a large amount of milk to handle. Yet how little help is there found in these able papers contributed for the woman struggling to make gilt edge butter from the milk of one or two cows, and with the limited appliances usual to the farm.

I was totally ignorant of the working side of country life when we moved to the ranch, just a shade less ignorant than the Bostonese who went to a farmer, to buy three kinds of cows, one to give milk, one to give cream and one to give butter milk. The incentive that compelled the taking-up of butter making, was having a family of invalids, that could not eat the store butter or even endure its odor on the table. The standard to reach was the highest, for in the old Philadelphia home, the Darlington or Sharples butters had been used. These old Quaker families produced a butter that is their pride, and is nearly faultless in flavor and grain; and when on the table the delicious aroma or boquet prevades the room with an appetizing odor. At last, the value of aroma, as indicating the highest quality has been recognized and at the coming St. Louis Purchase Exhibition, in the scoring of butter, aroma will be allowed 15 points, and better yet, the leaders in the creamery world are admitting that it is the correct way of scoring. We have heard of butter receiving a first award, that in 24 hours was rancid. This injustice to other exhibitors of butter could not have occurred had the aroma been scored as well as flavor and grain. It is always to be deplored, when a low standard is established for any staple article like butter.

Milk is in itself a complete food, containing all the human family needs to support life and health. It is extremely nutritious when diluted with water, and suggests that the dietary error of the day lies in the use of concentrated foods and the cereals that are burdened with starch, while Nature's broad hint that a perfect food is not concentrated, and not starchy, but contains plenty of water to aid elimination of the undigested portion, goes unrecognized. Milk is the most valuable food that we can put on the table, for family use, and we farmers can have it, fresh and sweet for our daily living. The water contents of milk make it an excellent culture medium for bacterial growths, both good and bad, the necessary good ones can be retained, and by cleanliness in handling the bad ones kept at bay; for if any success is to be achieved in butter or cheese making, absolute cleanliness must be observed in every part of the work. Slovenly, careless people may do to raise pigs, but are out of place in the society of my lady, the cow.

When one or two cows are kept, the milking is usually done by the hired man. It would be better if some one of the family did the milking, as then the hours would be more regular, as a rule, it is not possible to have the hired man as neat, or make him see the necessity for clean clothes, before entering the cow lot. If the children do the milking, the cows become very gentle and great pets. It is a good thing for the children to have pets that are useful and to have work to do that counts for a part of the family living.

Have a corner fenced off to milk in, where there is not a barn or stall, at least, and if the ground will harden under water, wet it down or else have a few planks for the cow to stand on, that can be kept clean. The cows should be brushed off before coming into the milking place. It helps to keep the cows clean, if the hair on the hips and shoulder is closely clipped. In brushing off a cow, use a common broom, cutting off about four inches of the whisp part and shortening the handle to a convenient length. The brushing can be done in five minutes. The udder is then wiped off with a clean cloth, the time spent is fully repaid, in the greater ease with which perfect butter and cheese is made. A covered milk pail is desirable, but if not convenient to buy one, a flat bottomed tin wash basin can be used, it must be large enough to cover the entire top of the pail, and have a two-inch strainer soldered into the bottom, by milking through this, the newly drawn milk is strained into the pail. The cover pail is, however, better if the cow is at all restive, as it can be moved away more quickly. Blue and white check aprons made very full and a pair of sleeves complete the milking clothes. It is little trouble to wash these out and use them rough dried. The particles of scurf from the body of the cow as well as the particles of manure clinging to any part of the milker are kept out of the milk. When there is only one cow to feed, she usually has grass for her diet with hay, a little bran and perhaps some rolled barley. It is surprising how much of the waste from the family table can add to the variety of her menu. If the vegetables are carefully washed the potato parings, the clippings from the vegetables cabbage leaves, with dry bread and remains of the cereal foods left from the breakfast table, everything except grease, meat scraps and tea and coffee grounds can be given to her. some cows are fond of the clabbered milk and of buttermilk. The milk room may be merely an airy closet, but it must be used for milk only, not open off the kitchen where odors arise from the cooking. The

Central California Dairying

(Continued on Page 280.

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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Friday, Oct. 30, 1903

Circulation this issue 9,100

THE WEEK.

Crisis in the Orient.—Again the war cloud seems drifting away from the East. Russia and Japan appear to have come to a common sense view of their respective conditions and war is averted—at least for a time. Amicable compromise seems likely to take the place of war. It can not be told just how far this intention will go, for we do not know how honest Russia is in her apparent desire to keep the peace. However the longer open hostilities are averted the more remote are the possibilities for trouble. Nations, like individuals, need time to cool down from anger or excitement and often a second thought entirely changes the nature of affairs. Let us hope the cycle of "belligerency" in which our planet is now revolving will be passed soon, and our round old earth slide back into its time-honored groove of harmony and good will.

* * *

Senators Go Wrong.—Scandals in high places are threatened in connection with land frauds that are being investigated by the Secretary of the Interior. A high official of the Interior Department says that the investigation now proceeding will reveal a condition of affairs far more astounding than was discovered in the Postoffice investigation, and that instead of a lot of minor bureau officials being caught, several men of national importance will be involved in gigantic public-land deals. The names of no fewer than six United States Senators are mentioned today as being implicated in the various great deals in timber lands on the Pacific Slope and the Far West. In addition, the names of state officials of various states are being mentioned as men likely to be indicted for frauds and the names of some important members of the House of Representatives are included in the list. When one thinks of the corruption witnessed by men in high places he cannot help asking the question which the long suffering politician from the South once asked President Cleveland, viz.: "Where are we at?"

* * *

Judge Estee Dies.—One of the best known and honored Californians has been called from the scene of his earthly activity by death this week. For more than 30 years Judge Estee has been a prominent figure in the public affairs of his state. He was a thoroughly representative man, for not only had he been a farmer, a miner, and a lawyer, but he was a horticulturist and a viticulturist. He was a member of the Pan-American Congress. His services were recognized June 2, 1900, by appointment as the first Federal Judge of Hawaii, which position he held at the time of his death.

* * *

President Diaz.—The assassin's bullet sped thick and fast about the person of Mexico's able president, as a noted criminal attempted the life of this honored man. Fortunately the missles of death went wide of their mark and Diaz still lives.

* * *

Intelligent Service of God and State—The President of the United States on Sunday last, delivered an address before 7000 people in Washington, at a missionary service, which is quite out of the ordinary for men occupying his position. It still further emphasized the christian spirit which this strong man has developed in his public utterances and has still closer linked his life and career with the great Republic whose servant he is. The argument he advanced with so much power was the need of civic righteousness in the citizen. "The chance to do work, the duty to do work, is not a penalty but a privilege," said he. This declaration made at a time when it is believed we are approaching a crisis in our nation's' history—a crisis between labor and capital—is the more worthy of consideration because it comes from one who understands the gravity of the situation, and who knows that between these conflicting elements there must come harmony somehow, or the country witness irreparable and widespread ruin. The thoughtful reader will recognize the point at which the President aims in the entire address. It is a fair chance to be a good citizen, unrestricted by conditions which tend to destroy the ability of the man to make of himself all he honestly can. "The best constitution that the wit of man has ever devised; the best institutions that the ablest statesman in the world have ever reduced to practice by law or custom, shall be of no avail if they are not vivified by the spirit which makes a state great by making it honest, just and brave.

"If you have not honesty in the average citizen or public servant, then all else goes for nothing. Not only the honesty that keeps its skirts technically clear, but the honesty that is such in the spirit as well as the letter of the law; the honesty that is aggressive; the honesty that not merely deplores but that wars against it and tramples it under foot. I ask for that type of honesty."

These are indeed ringing words that fall with wondrous effect upon the public ear in these times of social and financial unrest and when, in both public and private life the disposition to be dishonest is so painfully apparent.

* * *

Canada Disturbed—The decision reached in the boundry contention by the American and British commission has stirred the ire of our northern cousins to fever heat, so bitter is their feeling of opposition to the finding of the court that they now propose to cut off the tax they have annually paid England to assit in maintaining the war footing of that power. To read the editorials in the Toronto and Quebec newspapers one will be taken back in history to the times before the revolutionary war, when our forefathers, aggrieved at the tyranny of the mother country, resolved to become an independent nation. Really Canada is getting up to a point of open rebellion—if this thing goes on and we may possibly see another conflict on the Western continent and a new sovereign power on the north of us. But, of course, this is a remote possibility—for left to herself the query arises, can Canada maintain a government "all her own" when, at present, her greatest ability seems to be manifested in augmenting, rather than decreasing, her public debt.

* * *

Colombia Again.—News comes from Panama that a revolution has broken out in that little country, the cause of which no one seems to have a clear idea. For several weeks there have been rumors of an approaching revolutionary movement in Colombia. The political horizon of the country is clouded and there are many signs of unrest arising probably from the discussion and opposition to the canal project and approaching presidential campaign and the heavy deficit in the treasury.

Just how far this movement will extend is a subject for speculation. The outbreak does not appear to have the support of the Liberals in Panama, and without it, it will be difficult to make it very dangerous or formidable. But Colombia has before shown that a small spark can create a big fire, and it may be this is to be another instance of what a small revolution may grow into.

* * *

Road Making.—The Cultivator is glad to note the interest the Woman's clubs in California are taking in road making. In the northern part of the state in particular, much activity prevails, and the result from woman's work is apparent to a marked degree. These women are practical, and up-to-date, and in addition to their household duties and their club work they are imbuing their husbands with energy born of poetry. As they go about their daily duties they may be heard to sing:

"In this world's broad field of battle
Where each one must bear his load,
Be not like dumb, driven cattle,
Get a hoe and fix the road—"

* * *

Division of Citrus Fruit Business.—Judge Wellborn of the U. S. District Court has issued an order to the agent of the Southern Pacific Railroad Company to bring into court certain documents which the Interstate Commerce Commission desires information upon.

The evidence wanted is the so-called percentage table, which shows the agreement existing among the several initial lines for a division of the citrus fruit shipments out of local territory. This evidence, it is claimed, will be very valuable to fruit shippers in this territory.

* * *

Among the estimates for deep water improvements to be submitted to congress are two in California: San Pedro, $500,000; Wilmington, $50,000.

Santa Barbara, also ought to come in for a small appropriation, at least sufficient to erect a deep water wharf that will admit sea carrying vessels to land if they desire to.

* * *

The fate which follows notoriety has come to Mrs. W. J. Bryan. An enthusiastic admirer of her husband has left $50,000 to the family, but the wife of the benefactor refuses to have the will construed as it is written. As Mrs. Bryan is one of the executors of the will it is charged that she influenced the maker to remember her family. It all came about by the Bryans staying with the Bennetts when Mr. Bryan was hustling for the presidential chair. Such is the fate of publicity.

Individual fruit growers are writing to the State Board of Trade commending the resolution adopted by the board to provide for an investigation relative to the returns that California farmers receive for their products in the markets.

The Pacific Redwood Shingle Company has raised the price of redwood shingles from $1.45 to $1.65 per 1000. Prices were cut recently from $1.80 to $1.45 on the prospect of a fight with some rival mills but peace is now said to have been patched up.

The great George K. Porter ranch, comprising 16,450 acres in the San Fernando valley, has been bought by a syndicate of Los Angeles developers, for $575,750. This is at the rate of $35 per acre. The ranch lies about sitxeen miles northwest of this city. It comprises the north half of the San Fernando valley, and includes the town of San Fernando, on the main line of the Southern Pacific railroad, and some of the finest fruit and farming lands to be found in this portion of the state.

Manager Briggs of the State Board of Trade has prepared a letter to be sent to growers and organizations throughout the state asking then to co-operate, and suggesting ways in which they can render invaluable assistance. Work is also being done in preparation for a systematic investigation of the subject both in this state and in the eastern markets to get at the causes of present conditions, and particularly to provide a remedy.

A. Sbarboro, chairman of the California Promotion Committee today announced that the American Grape Acid Association, which was formed for the purpose of discovering a formula for making cream of tartar from grapes, and which has offered a prize of $25,000 to the discoverer of such process, will make a suitable reward for a solution by which grape juice can be utilized in making syrup.

The Department of Agriculture has for several years been experimenting to determine the dietary of different foods. The report is that nuts and fruits will sustain even those who labor as well as meat, and such diet costs from 15 to 18 cents per day, while animal foods containing an equal amount of protein, will cost 26 to 30 cents. Prof. Jaffa, who made the experiment, says nuts are the cheapest source of energy for the frutarian, the peanut ranging far ahead of any other variety. Dried beans, however, supplied more protein than the peanut.

An appeal has just been issued to the users of tobacco in Germany to boycott the American tobacco trust.

..General Agriculture..

WILL HANDLE ITS OWN FRUIT.

The Independent Placentia Fruit Company, the recently perfected independent fruit packing concern, has perfected plans for handling the coming season's crop. At last meeting it was decided to limit the season's pack to 150 cars and a contract was given the Benchley Fruit Company to handle the fruit. One new feature will be the doing away with labels. Instead the brand and name of the grower will be printed on the box itself. The following plan was adopted for doing business: No fruit shall be pro-rated. All fruit packed shall have the name of the grower on the box and shall not lose its identity. The grower shall have the right to say when and how his fruit shall be sold and when it shall be picked and packed. The manner of selling shall be spot cash when possible, otherwise it will be sold in auction or f. o. b. It is strictly understood that each individual grower has the right to dictate when and how his fruit shall be picked, packed and sold with the understanding however, that all fruit, no matter how sold, shall be packed by the company and shipped under the brand of the company. The idea for this is to endeavor to establish a brand that will, by its excellence, command at all times the highest market prices. The brand selected is I-X-L. The greatest care will be given in picking and handling the fruit from the orchard to the consumer. The grading will be careful and all fruit sent out under the I-X-L brand will be on a par with any sent from the State.—Anaheim Gazette.

VALUE OF THE APPLE CROP.

The New York Commercial Advertiser says that apples are among the important agricultural products of the United States, which stands first in this specialty. The average annual yield in this country is about 176,000,000 bushels. Of course, the total varies from time to time. The value of the apple crop has come to be recognized of late, and especial care has been directed to the raising of the best varieties. The average yearly output of New York State is now 24,111,000. Pennsylvania comes next, with 24,060,000 bushels, while Ohio and other middle western states are large growers. The exportation of apples has also become a considerable trade. In good years we sell abroad not less than 3,000,000 bushels. The foreign appetite for American apples is growing, as they are recognized as most healthful and appetizing articles of food. They have a quality and relish not found in any product of foreign lands. There was a time when apples for the use of the household of Queen Victoria were imported directly from the farm of an American producer.

ORCHARD AND GARDEN.

Making a good stack is an agricultural fine art.

It is best to do right things than to do big things.

What nurseries of vile weeds towns and cities are.

A dose of mowing machine is good for the weedy pasture.

Aecording to the figures of the California State Board of Trade the shipment of fruit and fruit products outside the State have risen from 23,347 carloads of ten tons in 1891 to 77,538 carloads in 1902.

THE "DESPISED" BERMUDA GRASS.

The editor of the San Joaquin Valley Farmer has become a convert to the use of the much hated (in Florida) Bermuda grass. In his paper of October 10th he takes up his pen in defense of this much despised article of "growing value" and defends it in the following vigorous language:

"The popular prejudice against Bermuda grass is something we cannot understand. Being thick, heavy and velvety it is an ideal grass for lawns as well as back yards. It does not require one-tenth the care of blue grass, but you will hear the nonsense of "you can't get rid of it," and it "runs all over." Why should you want to get rid of so hardy and valuable a plant as Bermuda? It makes an ideal pasture for both cattle and horses, and is very nourishing as well as fattening.

"An employe of the Minnewawa vineyard informed the writer that thirty acres of it on a low piece of land there, has supported one bovine to each acre and a few horses besides and all are rolling fat.

"On a trip to Hanford a few days ago, the scribe observed hundreds of acres lying between Goshen and the county seat, heavily impregnated with alkali, producing an indifferent growth of salt grass upon which hundreds of young cattle were eking out a bare living. On the return via the Santa Fe road through Laton and Conejo other hundreds of acres of alkali soils, with its miserable salt grass contained other hundreds of young cattle just above the starvation point. Now every foot of this land will yield a fine pasture of Bermuda grass. Why this land has not been sown to this splendid pasture grass passed our understanding. We have yet to find the stock raiser or small farmer who has been disappointed in this plant. It will grow and flourish on alkali soils; it will withstand drought and excessive moisture alike and, in this climate, affords a good pasture all the year round. By all means sow Bermuda grass and get rich."

The Cultivator is not prepared to endorse the suggestion of the Farmer, until it knows more about the real value of Bermuda grass. It is not a popular grass in the South, at least in Florida, where it is, for some reason, despised by those into whose farms it has spread.

It is the experience of those who have grown alfalfa most successfully that it is much more valuable as a hay if cured in the shade, by being cocked up as soon as wilted sufficient to handle well on the rake, and then covered with the hay cap. Extreme heat seems to cook the life out of the leaves and when too dry from a hot sun the feeding value goes out of the grass.

A first crop of 10,000 tons of salt is just now being "harvested" by the San Pedro Salt Company, whose works are situated about a mile back from the ocean and between Long Beach and Brighton Beach. The last of the first year's crop is just being taken out of the ponds and placed in piles, ready for shipment. The price of salt has been reduced about one-half in this territory, much to the delight of dairymen, to whom this is indispensible.

BEES AND HORTICULTURE.

The benefits the horticulturist derives from honey bees in close proximity to his fruit farm can not be too strongly set forth. The Kansas Farmer says that experiments have proven beyond any doubt that bees are a valuable fertilizer of the fruit blossoms and the means of materially increasing the quantity as well as the quality of the fruit. As a pollen distributor among the fruit blossoms, nothing equals the honey bee, or will come anywhere near it in the distribution of pollen to secure the most effectual fertilization of blossoms. The theory that bees are injurious to blossoms or to sound fruit has completely fallen through since the subject has received the attention necessary to discover the facts.

One would be surprised at the amount of work one colony of bees can do in thus distributing pollen in an orchard, and by no means does it require any great number of colonies to completely pollenize an ordinary orchard. One honey bee will visit several hundred blossoms during the day, and if this is true, how many blossoms will 25,000 bees (the number in a fair colony during fruit bloom) visit during the day? Hence a few colonies of bees in close proximity to an ordinary orchard will completely execute the job.

If the weather is favorable bees will go long distances to visit orchards and I have known them to go in large numbers as far as eight miles. I had a good opportunity to test this at my present locality, and none nearer than 50 miles distant. On several occasions I found my bees on the bloom of a peach orchard just eight miles on air line. But we can not expect to receive full benefits at such distances or anything like it on account of weather inclemencies. The weather also has much to do in preventing bees from thus visiting the blossoms on account of its being too cold for the bees to leave the hives.

By J. W. Jeffrey, Los Angeles

FEAR OF FREEZE-OUT.

The Fruit Trade Journal of New York, prints a doubleheader dispatch from Buffalo announcing that the California Fruit Agency is beginning a game of "freeze-out" with certain Buffalo dealers who refuse or neglect to sign a contract with the Agency to buy oranges exclusively from the latter. Following the announcment from Buffalo of the fell policy of the California organization the Journal comments richly upon the "Combine's" attempt to drive out of business all who will not come into the tent and agree to buy exclusively from the Agency. In the discussion, some points of which contain principles, the New York trade paper fails to grasp the true significance of matters. It speaks, for example, of the absurdity of cutting off orange supplies from two Buffalo dealers as if it were an attempt to cut off supplies from the Buffalo consumers. We can see how reprehensible it would be for the agency to refuse to sell oranges to the people of Buffalo, but we fail to make out the bad policy of selling to the people through certain dealers who are wiling to make a specialty of California oranges in pushing their fruit trade. If one thing relating to the citrus fruit trade has been more thoroughly demonstrated than another it is that there were too many wholesale merchants in the business. Long before the agency was thought of the succumbing of the unfit demonstrated that economic features alone, at this end of the line prevented the maintenance of six or eight packing houses where three or four could handle all the fruit, and this was one of the greatest factors in bringing about last spring the organization of the California Citrus Union, one of the wings of the agency. Do the Buffalo complainants suppose that the Earl Fruit Company, Ruddock-Trench, Spruance and the other members of the Union will now become frightened at incoherent objections to the selection of a few agencies in the East where many are not necesary? Or the Exchange to become panciky because two large firms in Buffalo refuse to become its agents when the two singing firms can supply the trade as easily as could the four? If the Union and the Exchange is not afraid what can make fearful their own servant, the California Fruit Agency?

The Journal makes the artful charge that the Agency (attempted to make odious by calling it a "Combine") would like to drive out of business all the growers who remain independent. We do not believe the agency has any such sinister motives. Even if it did meditate such a course it would be in vain, for have we not been assured for years that these independent growers-shippers were making money hand over fist every year and are therefore invulnerable? Indeed the Journal informs us that these independents are making money because their fruit is handled competently by merchants in the various cities? In looking through the advertising columns of the Journal it is surprising how many of these commission merchants are bidding for the privilege of making the California orange growers rich on commission sales. There are literally scores of such advertisers in this paper and their patronage must be enormous if the Journal gets fair rates for its space. Verily this trades paper should profit in convincing the citrus fruit growers that the "independent grower-shippers are waxing stronger all the time." Convinced of this the commission merchants would renew their "ads" and perhaps even bid up a little for write-ups could a journal be found willing to devote its space to that purpose.

We have not far to look for the source of these diligent attacks from the commission merchants' journals of the East. Self interest is the point from which these attacks arise. We cannot blame the commission men for seeking to again control the fruit marketing proposition. But we do blame them for the vain effort to do up the agency by unfair opposition. It is a matter of life or death to the citrus fruit business. The so-called "Combine" is not engaged in illigitimate methods as has been demonstrated in the columns of the Cultivator for years. It is an economic move of the straightest and most necessary character, and its fulfillment will work no harm to any factor in the citrus fruit industry which is rendering an equivalent to the producer for what it costs. Under this category of necessary factors we do not class the commission merchants, who are, through their organs, making all this noise about the unfair methods of the agency. That institution is but the representative of the principle of selling fruit for what it actually costs to render that service, or its equivalent, in a flat contract very favorable to the growers formerly outside the selling agencies of the Exchange, but now in the Citrus Union in a combination to foster the selling of fruit in the most economical manner. We may be sure that the motive of the eastern attacks of the commission merchants is instigated by the fear that a large number of them will be frozen out and finally lose all connection with the citrus fruit business of California. For the sake of the truth, however, we would like to see the editorial writers of the fruit trade journals of New York become better posted upon the subject at this end of the line. It would save them some mortification in having written most ridiculously of the situation.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO

CO-OPERATIVE WINERIES COMING.

The sudden and unexpected slump in the prices of wine grapes this season will have a beneficial effect in forcing the growers into co-operative societies for handling their own crops. An association of this character has been formed in Sonoma county under the title of "The Vineyard Proprietors' Wine Company.'" The corporation is formed for the purpose of leasing and conducting wineries and distilleries. There are rumors of other organizations of a like nature in different parts of the state and it is not improbable that a number will be in operation by the time the next grape crop is ripe. This is as it should be, and it would be profitable for the wine growers in every community to combine and have their own wineries always in working order, even if they never used them. They would then always have an opening of escape from the wine makers when they felt the latter were treating them unfairly.

* * *

DEMAND FOR WINTER TOMATOES.

There are very many frostless nooks in California from which a very handsome revenue might be derived by the production of winter vegetables for the San Francisco and the eastern market. Near all the great eastern cities this is found to be a profitable industry, even where it requires the construction of expensive glass houses, fitted with appliances for artificial heating, and the maintenance of a high temperature during the intensely cold weather of the winter months characteristic of the eastern states. If, then, the production of winter vegetables is found profitable under all these adverse conditions, how much more so should it be with those of our people who are fortunate enough to be outside of the frost belts of the state; and where the tenderest vegetables can be grown in the open with a little care in cultivation and occasional light shelter on the coldest nights. In such localities, tomatoes especially would be found a very profitable crop, and one of the most easily handled. There are scores of places in the foothills along the mountain ranges from Shasta to San Diego, where this fruit can be produced almost every month in the year, and it is one that always commands a market. During the winter and early spring months, tomatoes are imported from Mexico by thousands of boxes, and of the cargo of every steamer arriving from Mexican ports in San Francisco, tomatoes and peppers form an important item. As a rule these are poorly grown and poorly packed, green and ripe fruit of all sizes and generally of poor quality are packed together in twenty pound boxes, yet these sell readily at $2.50 per box. There is no reason why our own people should not have the benefit of this market, or the wider market of the East, for the early fruits and vegetables which our frostless sections can produce.

* * *

A PROSPEROUS FRUIT SEASON.

The fresh fruit shipping season in Northern California is practically ended, for while shipments of table grapes will continue for two or three weeks yet, the daily shipments are growing smaller. Apples now form the bulk of fresh fruits going out of the state. Apples, however, are not generally classed with our fresh fruits in speaking of the fresh fruit season, but are placed in a class by themselves. The season, throughout, has been a most favorable one to the grower and for the first time nearly all returns have been on the right side, and the grower can figure up the profits on each carload with a good deal of satisfaction. "Red ink" returns have fallen into disuse, and with a few small exceptions, there have been profitable returns on all carloads and, on some, an extraordinary margin of profit. While the volume of shipments has not come up to early expectations, it has exceeded that of last season, and in the matter of returns this has been one of the most prosperous seasons our fresh fruit men have ever known.

* * *

THE COMING TREE PLANTING SEASON.

Every year we are all warned against further orchard and vineyard planting, and every year no one pays any heed to the warning. We learn from nurserymen in the northern counties that they have already received large orders for stock delivery during the coming winter and the prospects are that the acreage set to new orchards will be equal to, if not greater than that of any former year. Peaches, prunes and apricots are still the favorites and orders for these are heavier than any others. The apple, however, is steadily growing in favor, and will be very extensively planted in all sections of the state that are at all adapted to it. Orders for apple stock are heavier than ever before.

* * *

INTERESTING MATTER ABOUT THE CODLING MOTH.

Among the papers which will be presented at the coming Fruit Growers' Convention are two of especial interest to apple and pear orchardists. One of these is by Prof. Woodworth on "New Observations on the Codling Moth," and the other by Prof. Clarke on "Spraying Operations in the Pajaro Valley." These gentlemen have carried on a long, persistent and successful fight against one of the worst insect enemies of the fruit grower, and will now tell what they have accomplished. The apple growers of the Pajaro Valley are well satisfied with what has been done and claim that they have but now 3 to 5 per cent of wormy fruit against 40 to 60 in former years. Prof. Woodworth has discovered new habits of the Codling moth, the knowledge of which will enable our orchardists to attack her at the most vulnerable period. It has been demonstrated satisfactorily what intelligent and persistent work will accomplish against this most serious pest and this knowledge will be made public by Profs. Woodworth and Clarke at the next convention.

A quarter of a million dollars worth of goat skins is annually imported into the United States. Here is an industry the California farmer might profitably engage in.

WALNUT CROP IN FRANCE

C. P. H. Nason, U. S. consul, Grenoble, France, under date of October 4, 1903, writes:

The latest advices from the walnut-growing districts of the valley of the Isere are to the effect that the coming crop is in a fine condition. All reports agree that this year the yield promises to be very abundant, and the fruit itself of an excellent, choice quality, providing always that nothing untoward occurs to mar these prospects before the harvest time, now near at hand. Thus for this season the weather has been all that could be desired for the normal development of the nuts, neither too dry nor too wet, while the nuts themselves are well formed, healthy in appearance and free from spots.

As to the yield of the harvest, it would not be prudent to venture an opinion as yet, since the best experts are disposed to make varying estimates for special reasons from their own point of view. In any event, presupposing favorable conditions, it may be said safely that it will be large—probably one-half larger than the crop of last year, or say, to fix an approximate figure, about 40,000 bales of 100 kilos (220 lbs.) each. Of this quantity it is expected that the American market will absorb one-half, especially if the quality of nuts proves to be fine, as it is anticipated, and prices rule easy.

As to the opening prices it would seem, in view of the promise of an abundant crop, that low figures are likely to prevail this season as compared with those of last year, for it is reported that within the last few days some few contracts have been concluded between buyers in America and sellers here, for future deliveries of the new crop, on the basis of 73 and 75 francs per 100 kilos. c. i. f. New York (about 6½ cents per pound) and some enterprising dealers are said to be offering to sell walnuts of the new crop on the American market at 72 francs per 100 kilos, same conditions.

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One 3-Horse-Power Water Motor, 2 Ruggles Brushes, one set Fairbanks Scales, one Elevator.

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R. S. Thompson, Manager Highland, Cal.

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"The Propless Tree Prop."

TWIGS BENT OUT OF SHAPE BY HEAVY CROPS SOON SPOIL THE TREE

They won't be bent if you use the

HOYT SUPPORT

the Best of All Props.

Its great point is in the ECONOMY. ECONOMY as to price when purchased and ECONOMY in the time required to apply it. No stakes are necessary. ECONOMY in this, that the props may remain in the tree from year to year.

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SAN DIMAS
DISTRIBUTOR FOR SO. CAL.

J. W. MILLS, ONTARIO, CAL.

SCUTELLISTA CYANEA.

Editor Cultivator:—Will you please tell me where to procure the bug which eats the black scale?—A Subscriber.

You should file your application with the County Board of Horticultural Commissioners, as they are prepared to send out colonies to districts which need them. It is too late now to secure them inside the next seventy or eighty days, as they are not very numerous in the egg or pupa state at this time. Write to J. W. Jeffrey and when your turn comes you will be supplied.

* * *

PITLESS PLUM AND PEARL MILLET.

Editor Cultivator:—Will you please tell me what plum the enclosed pit belongs to? It is a tart reddish plum, clingstone, which settles to the bottom when cooked. In the Cultivaor of Ocober 9th, mention was made of a new kind of cattle feed, Pennisetum. Where can I get plants or seed? What can you tell me about it?—L. C. Smith, Redlands.

The plum you sent must have been nearly a pitless one, as only a piece of shell was to be found in the letter. We would not venture a guess on simply a pit, we would need at least one typical specimen of the mature fruit.

The forage plant referred to in the issue of October 9th is without doubt Pennisetum spicatum. It is by no means a new plant, having been raised in this country for over thirty years and is known to have been raised extensively in Egypt for over 300 years. We have grown it on the damp lands of the Chino ranch during the last four years and consider it a good green crop for stock. During the season of 1899 it grew to be seven and eight feet high and was much relished by stock.

This millet was introduced into this country about the time the sorghums and Egyptian corns were, but unlike them, it has changed its names often to suit the spasmodic efforts of seedsmen to introduce something new. Following are some of the names under which it has been offered for sale in this country: Manns Wonder Forage Plant, African cane, African millet, Bajree millet, Black millet, Brazilian millet, Bulrush millet, Cat-tail millet, East Indian millet, East Indian Pearl millet, Indian millet, Egyptian millet, Horse millet, Japan millet, Pearl millet and Pencillaria. Under these different names it has been boomed by seedsmen at fancy prices, while if the farmers had only been supplied with reliable information, they need not have spent so much money experimenting with something they could have been enlightened on. It is a good forage plant but can be bought cheaper under the name of Pearl millet than under any of the other names. Those firms advertising it under the name of Pearl millet charge from 12 to 40 cents per pound. Those selling it under the other new fangled names charge from 75 cents to $1.50 per pound and one seedsman in Germany asked at the rate of $69 per pound.

Pearl millet requires rich moist soil to give the best returns and will stand considerable alkali. It will stand several cuttings in a season, and authentic records show that it has produced from two to sixteen (16) tons of cured fodder per acre. As far back as 1879 it was recorded that in this State on very rich land, it produced 31 tons of green fodder per acre at one cutting. It produced in Kentucky, 20 tons the first cutting and 19 tons the second cutting per acre. It is not so nutritious as sorghum, but makes up in quantity, and is very palatable as is shown by the avidity with which stock of all kinds eat it.

This millet does not require treatment much different from that of ordinary fodder plants. Thorough cultivation up to the time of planting being essential to keep all weeds down and retain all the moisture possible. Planting should not be done until after all danger of frost is over and the ground warms up well. The seed should be drilled in as a better stand is assured. When it is intended for green feeding, the rows should be at least three feet apart, but for hay, they should be about eighteen inches so that it will not grow too coarse. It is a difficult crop to make hay of as it is almost impossible to cure it on the field in ordinary weather, before the new crop will come up through it, and if the yield is very heavy, there will not be room enough on the land on which it grows, to cure it. It requires about 4 pounds of seed per acre for the thinner planting and double that for the close planting. Sown broadcast, it will require about 25 pounds per acre.

* * *

GROWING LOGAN BERRIES.

Editor Cultivator:—Will you please inform me how to propagate Logan berry vines, also the proper time and dimensions for proper trellis?—Subscriber, Yuba City..

The tips of Logan berry vines should be buried and kept moist. several plants may be secured from one cane by burying it the full length, but better plants will be obtained by burying it near the end, leaving just enough out so that it will continue to grow. When it gets long enough to repeat the operation do so, and if you commence early enough in the season, many vigorous plants may be secured from one plant. For plan of trellis, see the issue of October 23rd. Heavy posts at the ends and light slats or stakes at short intervals when wire is used. When lath or boards are used for trellis, the distance at which the stakes are set depends on the length of the lumber.

* * *

AGAWAM GRAPE CUTTINGS.

Mr. J. H. D., of Santa Ana, wants to know where he can buy Agawam and Lindly grape cuttings and if the station will send any out. We have none that are not engaged, having but two vines. These varieties are not new and can be secured from or through any of our nurseries.

* * *

CORNICHON GRAPES AND GINSENG.

Editor Cultivator:—I wish to ask if you think Ginseng growing would prove profitable in this locality? I hear great reports of it east of the Rockies but know nothing of it here. Please let me know what you think of it. Also, tell me how to prune my Cornichon grape vines so that they will stop running all over everything, and will bear some fruit.—Subscriber, Garden Grove.

We cannot give you any encouragement along the lines of Ginseng culture in Southern California. Its native habitat is in the dense, cool and damp forests of the Northern and Middle States, extending into Canada. You would have to reproduce those conditions here to make Ginseng thrive, and you will find it very expensive and well nigh impossible. The circulars that are being sent out advertising it are very alluring, but we would advise prospective growers to invest very little money in it until they have experimented on it on a very small scale. Those who seem to be making the big money out of it seem to be those who are selling seeds and roots for from 25 cents to a dollar apiece to prospective growers. You may remember the Belgian hare boom. It started in about as mildly as the Ginseng agitation has, but we predict that it will not spread as rapidly. It will not reproduce its kind so rapidly. Remember, if you decide to experiment with it, you will have to expend from four to six years of patient toil and care before you will know if it is a success or failure. You cannot harvest commercial roots under that time.

You should prune your Cornichon vines half long. Where you have two canes on a spur, cut one to five or six buds and the other to two buds. You will get your fruit on the longest cane and the two-but spur will produce two canes the coming season from which you can repeat the operation. At trimming time, after you have established this kind of pruning, remove the old six bud on cane with its old bearing canes, and you will get rid of all that brush which will then have served its time. By leaving the six bud cane on the opposite side from which you did the previous time, you will be able to keep the vine in shape. Just remember that the two bud spur is always retained and its position determines the shape of the vine, therefore, shift it on the other side of the long cane each year and it will form an arm that will have a general straight direction.

PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture," — finely illustrated — tells all about planting and care of orange and lemon trees. If you will write we will be pleased so send you one.

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We call special attention to our stock of grape roots. Cuttings have been selected from nothing but strong and healthy vineyards and have been fumigated with hydrocyanic acid gas before planting in nursery. We can absolutely guarantee this stock free from disease. The list comprises all the leading wine, table and raisin grape varieties, also resistants.

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GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 14 FRESNO, CAL.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.
(Continued.)

The three first items in this article should have appeared last week under Prof. Cook's discussion of insects, but the length of the article forbade their publication.

* * *

Aphids or Plant Lice.—Few who have anything to with plants need to be introduced to the aphid pests. The insects are flask shaped, have long antennae and sloping wings which fold on the back. They are interesting not only from the great damage that they do, but from their enormous prolificness and their novel mode of reproduction. They are so pestiferous that were it not for natural enemies of which they have near a score, they would render agriculture most discouraging.

So rapidly do they increase that it is stated that the progeny of a single female which lays eggs in the fall, might reach three billion the next year should all live. In the fall there are both males and females. These pair, after which the female lays her eggs on the twigs of plants, usually near the buds. In the spring from these hatch only females and these give birth to other females the summer through, there being no males till autumn. I say give birth, for these are born alive and do not hatch from eggs. This novel mode of reproduction is known as agamic or parthenogenesis. Of the many broods in a season, there may be a dozen, occasionally one comes with wings, though nearly all are wingless.

* * *

Tree Hoppers—Closely related to the leaf hoppers are the tree hoppers. These are remarkable for their bazarre forms. Parts of the body, usually the head or prothorax are prolonged into great spines, often producing a very grotesque effect. A collection of these tree hoppers cannot fail to cause amusement by their oddity. While all feed upon plants they are rarely sufficiently numerous to do any great damage.

* * *

Jumping Plant Lice.—These insects appear like tiny cicada and like the two families just described are also jumping or hopping insects. In all these cases the hinder legs are much thickened and used to propel the insects as they hop from the leaves or the twigs. While they are called jumping plant lice, they are really quite different from the true aphids. The wings are more complex in their venation. The pear tree psylla belongs here and has done not a little damage in the Eastern states. It is strange that so tiny an insect, only one-tenth of an inch long, can do such formidable damage, yet there are millions of them and minute as they are they have been known to destroy whole orchards. The distillate spray would undoubtedly be an efficient remedy against these pests.

Every lady with house plants, every keeper of a green house, and every gardener and orchardist realizes the danger from these plant lice. The melon growers in the Coachella valley have been seriously troubled by the melon aphis. A well known habit of these insects is the secretion of honey dew which attracts the ants and these in turn protect the apihds against their many foes. Honey extracted from this honey dew is often excellent in quality. In most cases the natural enemies will keep these in check. In case they fail to do so, kerosene emulsion or better, the distillate spray, and where is can be confined, tobacco smoke are found quite sufficient in destroying these little sappers. In our next article we shall finish the bugs, in describing the last two families, the White Flies and the Scale Insects.

* * *

SPOTTING OF FRUIT AGAIN.

The worst case of spotted fruit that I have yet seen was brought to my study the past week. The spots are large and the injury seems deep and mars the fruit more seriously than anything I have before seen. It seems a very grievous matter and I have sent for the Commissioners of San Bernardino county and will, with them, visit the orchard next Monday. I have never seen anything like this before and feel sure that neither fumigation nor spray causes any such trouble. I hope that Monday will reveal the cause.

* * *

LEGUMES IN THE ORCHARD.

Mr. C. C. Teague of the Limoneira orchard asks my opinion of the effect of a green crop in the orchard in winter in adding to the injury from possible frosts. He was proposing to put fenugreek in his orchard but was told by some one that orchards with green crops were more likely to be injured by frosts. He asks if I agree with the above opinion. I certainly do not. I think the tendency of the green crop would be helpful but I think its influence would be so little that it need not be regarded. Frosts are promoted by radiation from the earth. Clouds, or anything that acts as a blanket serve to prevent this radiation and thus help to protect against frosts. I should suppose that a green crop would have this same tendency. In another way, I should suppose that the green crop would aid in battling this frost evil. It feeds the soil generously with nitrogen. This in turn makes strong plants and strong plants are always the ones that are strong to resist frost or any other enemy.

* * *

WATER FOR ALFALFA.

Mr. C. W. Leffingwell of Whittier, asks me to report through the Cultivator any knowledge that I may have concerning the amount of water necessary to grow a crop of alfalfa. I have consulted two of our exeprienced alfalfa growers who are very successful in growing this magnificent forage plant south of Pomona. These gentlemen have wells on their place and thus are not limited in the quantity of water which they have at command. On a five-acre piece they used 75 inches allowing it to run three days of ten hours each. They irrigate, using this amount of water, once for each crop, about every four or five weeks. This is applied just after the crop is cut, and they aim to thoroughly soak the ground. The soil in this section is rather light sandy loam. As I remember the soil at Mr. Leffingwell's place I should think that it was a clay loam, and therefore a much heavier soil. Such soil would take less water and would be more retentive of moisture so I presume the amount required would be somewhat less than is given above. Will not others who have had experience report throngh the Cultivator?

* * *

THE APRICOT SCALE.

Mr. W. L. Cunningham, Windsor, California, desires the Cultivator to give a full account of the brown apricot scale which is doing great injury to the prune trees of his county. He is sure that the readers of his section would greatly appreciate all possible information regarding the life history of this scale and any remedies that may be expected to eradicate the pest. This is a common scale in the northern part of our state and is known to science as Eulecanium (Lecanium) armeniacum. It was named by our own Professor Craw. He first mentions it in the report of the California Board of Horticulture, page 12. It is a close relative of the peach scale, frosted or prune scale, pulm scale, currant scale, and tulip tree scale. It is also much like the common black scale. Its life history and habits are much the same as we find in any of those just mentioned. Some sent me in June hatched out in that month. They are annual, are very prolific and secrete honey dew. as do all similar scale. I have never had any experience with these scale but I have seen so much of kindred scale that I have little hesitation as to advising a treatment. The parasite comys fusca, a chalcid, preys upon this scale. This parasite could be got of orchardists about San Jose. There is no doubt at all but that the distillate spray would destroy the young of this insect. In the month of June, after the insects had all hatched its use on the prune trees would certainly be very effective. I shoulld suppose that the fruit at that time would be in condition so that the spray would not do any possible harm to it, yet I would certainly urge that the spray be used in a small way until positively assured. I believe that a two or three per cent spray would kill all of the young scale and would do no injury to the trees. It is to be hoped that this scale hatches quite uniformly in which case there would need be no second application, as one thorough spraying would kill all the insects. I have not tried this distillate spray on deciduous trees but have used kerosene emulsion very largely on such trees in the East, and from what I have observed in regard to distillate spray I should use it with very great assurance of success.

Mr. Cunningham wishes to know what kind of a sprayer to use. This distillate spray is not an emulsion, but is simply a mechanical mixture. The machines used in Southern California are run by gasoline engines, which are placed on the wagon with the tank.

The oil and water are mixed in the right proportions and the machine by a sort of a churn thoroughly mixed the two liquids. Horses are kept on the wagon and move along as fast as the spraying is done. The whole cost is about $390. The great advantage of the spray is its effectiveness in killing the scale insects and its great advantage in cheapness. If done by the owner of the orchard and I think it always should be, it will not cost more than one-third or one-fourth as much as it does to fumigate. I have long urged the great importance of each neighborhood owning its own machine. Then the spraying will be done just when it ought to be, will be very likely to be well done as the owner either does the work or superintends it, and the saving of a single season will very likely pay for the machine. The point to be kept steadily in mind whether we are to fumigate or spray is to do the work well. To be penny wise in this case is certain to be pound foolish.

GO TO GARDENA

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For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

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House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 8 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

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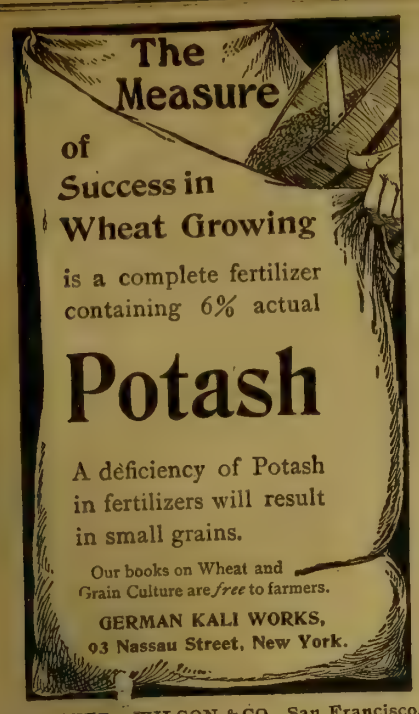

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Coast News and Notes

By R. A. Dague, Cor. Sutter and Sansome St., San Francisco

HORTICULTURE.

California has an area of 85,000 acres planted to orange trees.

Pajaro Valley apples are selling for good prices in England.

The olive crop of Orange county is larger than for several years last past.

John Rosasco, of Healdsburg, sold his crop of prunes at the rate of $100 per ton.?

Ranchers are saying that next summer they will use the lead arsenates in spraying.

Oranges are beginning to ripen in the vicinity of Porterville. The crop will be large.

The Earl Fruit Co. has shipped about 100 carloads of apples from Watsonville this season.

The "Belle" peach of Georgia was experimentally planted in California, and successfully.

The Hoyt Tree Support Company of Watsonville has shipped 250,000 tree supports to Riverside.

The Lemon Cove Citrus Company shipped the first car load of lemons out of Tulare county this season.

The Rosenberg Brothers Company are doing an immense packing business now. Forty tons of raisins are some days received.

The bankers attending the national convention here last week were freely fed on apples from Pajaro Valley and they pronounced them very good.

The Southern California grape growers will follow the plan of Northern California growers and organize an association and make their own wine.

Dr. H. W. Westlake, of Duarte, has 5000 citron trees of the Corsican variety. He is the first man in the United States to successfully grow this fruit.

The co-operative cannery at Oakdale in Stanislaus county was burned to the ground last Sunday. The loss was $5000, with $3000 insurance on the property.

E. T. Barnard's packing house in Visalia was destroyed by fire the 24th inst. One hundred tons of prunes, two cars of peaches, one car of raisins and a lot of valuable machinery were lost.

It is asserted by an Oakland horticulfurist that if the English black walnut is grafted on the California walnut tree when the latter is three years old, it will bear a merchantable nut of great value.

Swan & Son, near Palo Alto, raised this year two carloads of seeds from 250 acres. The seeds consisted of onion sets and lettuce seed. Next year they will plant an increased acreage which will require 6,000 sacks of seed to plant the tract.

The pear crop in Sonoma county was poor this year. Last year the codling moth did great damage. This year at least two-thirds of the crop was unfit for canning because of the scab. Most farmers fed their pears to the hogs. Some dried the fruit.

Humboldt county is going to the front as an apple producer. George Stewart, near Eureka, has a very fine orchard and has this year raised a very superior crop. He offers his pickers $10 for the first apple they bring to him containing a worm.

A "silk company" has been organized at San Diego. A lady member says a couple of dozen trees in the back yard, a spare room and a few inexpensive trays is enough to raise cocoons worth from $100 to $200 per annum. It is claimed that the climate of California is specially adapted to such culture because here we can grow silk for nine months in the year, while in other countries they can not grow at a profit for more than seven weeks per annum. One acre of mulberry trees will produce from 70 to 110 pounds of silk.

Some time ago the American Grape Acid Association, through A. Sbarboro, chairman of the California Promotion Committee, offered a prize of $25,000 for a formula for producing cream of tartar from grapes. Now comes William Coldsworthy, of Tipton, Iowa, who is ready to demonstrate that he has the correct formula and will claim the prize. If he is successful the discovery will be a great value to California.

The experiments of Prof. H. J. Webber, government expert, are being carefully observed by horticulturists. He proposes to produce seedless apples, grapes, watermelons, tomatoes, thornless blackberries, also strawberries and blackberries combined, and a combination of orange and grape.

The Los Gatos Fruit Growers' Union is sending out large quantities of packed fruits under the "Gatos" and "Pathfinder" brands. Other canneries of Los Gatos send out daily an average of about five cars of fruit. Mr. Curtis of the same place is shipping barrel prunes which are to go to France.

G. B. Robbins and Robert Graham, officers of the Armour car line, made the statement at San Francisco a few days ago, that during the season 182,000,000 pounds of deciduous fruits and grapes were shipped eastward from California. This amounted to 7000 car loads. The total net profit was $2,100,000.

The California Raisin Growers' Association of Fresno, after a strenuous effort to control the industry in that county, succeeded. Outside packers bought heavily at 4½ cents clear, in the sweat box. The association then dropped the price one cent a pound and badly pinched the outsiders. The association has the situtation well in hand.

The American Grape Acid Association has deposited $25,000 with Daniel Meyer, banker of San Francisco to be given to the individual who can successfully furnish a formula for utilizing the California grapes so as to produce tartaric acid from grapes containing over thirty per cent. of saccharine. This offer stands good until December 1, 1904.

MISCELLANEOUS.

California has 3,925,000 acres of land under irrigation.

A deep sea wharf is to be built at Huenema for the benefit of the Bakersfield Electric Railroad.

The flower show held at Menlo Park the 22d and 23d instant was a very attractive exhibition.

J. J. Adams, of Kings county, presented to the Hanford Board of Trade a sunflower measuring 17 inches in diameter.

Orders have been issued to patent every acre of Southern and Central Pacific lands. 2,700,000 acres yet remain unsold.

The people of Windsor will hold a bazaar on November 6th and 7th and the proceeds will be applied in town improvements.

Chile raised a crop of 50,000 sacks of English walnuts this year. They very much resemble the walnut raised in California.

The Saunders family of Cotati narrowly escaped from death last week from ptomaine poisoning from eating canned corn beef.

The Southern Pacific Company has recently received 245 passenger coaches 125 of them being chair cars, 15,616 freight cars and 337 new locomotives.

It is now stated that South Africa is so productive that she will ere long be a serious competitor of the United States in Europe in grain and fruit.

Marseilles imports large quantities of cotton-seed oil from the United States, mixes it with olive oil and sends the mixture back to us for our consumption.

The California creditors of the Porter Brothers Company, the big fruit firm that failed some months ago, will not get over twenty cents on the dollar for their claims.

A movement now nearly consummated was recently begunin Chicago to amalgamate 500 building and loan associations into one gigantic combine. It will have a capital of $40,000,000.

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and everything for the orchard and garden.

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C. E. NEEDHAM **Glendora, Cal.**

150,000

Arizona Everbearing Strawberries

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BERRY PLANTS

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Write for descriptive circular.

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Coast News and Notes

CONTINUED

Heretofore it was supposed that the Rubber tree could be produced only in Mexico and Central America. O. F. Cook, of the U. S. Department of Agriculture, has been investigating the matter and raises the hope that the tree may be successfully grown in Southern California.

A gentleman from Brazil says coffee is an antidote for alcohol. In Brazil the inhabitants drink coffee several times a day, and intoxication is rarely seen. Even foreigners, heavy drinkers of whisky, who settle in Brazil often are cured by adopting the coffee habit of that country.

On the 17th the Secretary of the Interior withdrew from entry thirteen tracts of land in Alaska, to be devoted to reserves for a salmon hatcheries. This was on recommendation of David Starr Jordan, who was last summer sent to Alaska by the government to investigate the matter.

There may now be found in American markets two substitutes for silk. They both come from Europe. One is made from wood. The fabric looks very much like silk but it has but little strength. The other is made from cotton. It is a most clever imitation of genuine silk.

Chas. L. Davis, of Petaluma, has invented a new kind of paint and varnish remover. It is a liquid. With a cloth saturated with the fluid, old paint can be easily removed, leaving the surface perfectly smooth. A stock company capitalized at $300.000 has been organized to manufacture and sell it.

A federation of women's improvement clubs of the Sacramento valley, recently held a meeting at which steps were taken to plant shade trees and inaugurate other improvements in Oroville, Auburn, Winters, Colusa, Marysville, Wheatland and other towns in the valley.

There has been landed at San Francisco a small cargo of native farming implements, samples of timber, etc., from the Philippine Islands, to be put on exhibition at the St. Louis fair. A native Filipino brass band of seventy-five instruments are on the way to the exposition, also 100 native Filipino students.

F. H. Newell, chief hydrographer of the Geological Survey who has charge of the irrigation work of Nevada, says after the Government accomplishes what it contemplates in the way of irrigation, that state will have a wonderful development. Instead of having a population of 40,000 as now, it will in a few years have 500,000.

R. J. Hamilton, of Philadelphia, who attended the bankers' convention here last week, said that this year's cotton crop is eleven million bales and the corn crop about two billion bushels, while wheat is about an average. He added. "The crop conditions are satisfactory, but there is some uneasiness among bankers, because of the depressed condition of the stock market on Wall Street."

Work on the great million dollar irrigation canal has commenced. It starts from the Truckee river east of Reno, Nevada, and will end at the Carson Sink, 32 miles distant. 350,000 acres of arid land will be watered. About 300 men are now at work. Later on 2,000 men and 1,500 horses will be employed. The reclaimed lands will be homesteaded at the proper time.

John Hamilton, Farmers' Institue specialist of the U. S. Department of Agriculture, has made the important announcement that it will be part of his work hereafter, to devote a part of the institute session to teaching boys and girls. We must, he says, have a boys and girls department and instruct them. He adds: "Too often it happens that a farmers' institute is made up of a few retired farmers. It is estimated that five hundred thousand farmers attended the farmers' institute meetings throughout the United States last year. But who takes notice of the boys?"

It is claimed that the general government has determined to try the experiment of producing every plant imported in this country in the experimental station now being located in California. P. H. Dorsett, superintendent of the Plant Introduction Garden, has been in consultation with Luther Burbank relative to the matter. This is a movement of great importance.

AGRICULTURE.

Wheat sowing has begun in some sections of Central California.

Prof. Fowler will conduct a Farmers' Institute at Corning November 20th and 21st.

A field of 600 acres at the Cone ranch in the Antelope valley, is being prepared for alfalfa.

The Japanese have, since the fifth century, produced silks. One cargo of silk eggs brought them $2,500,000.

The Pasadena Farmers' Club met this week at the home of Dr. Grinnell. The topics discused esepecially were Johnson grass, C. A. Day; Bees, Mrs. Grinnell.

Prof. Geo. A. Colby has been appointed by the general government to make chemical analysis of food products imported into this country at San Francisco.

Late rains have damaged the wheat crop of Washington 30 per cent. The crop was originaly estimated at 19,000,000 bushels. The estimate is now 12,000,000.

J. P. Quimby, of Kings county, sent in to Chittenden & Co., of Hanford, a tomato that weighed 2¼ pounds, and measured 17 inches in circumference.

Much interest is being taken by the farmers of Geyserville and vicinity in the Farmers' Institute to be held there October 30 and 31. Premiums will be distributed to those who exhibit the best fruit or farm products.

Walter Armstrong, of Sebastapol, intends to drain off a number of acres of pond, and plant a lot of celery at the proper time. He says this drained swamp will raise as fine celery as is produced in Orange county.

Fritz Werner, near Livermore, raised string beans this summer, the pods of which measured thirty inches in length. They are tender and palatable. The seed was procured in Calaveras county.

The directors of the newly formed Independent Packing Company of the West, met in Denver last week. The capital stock is $5,000,000. Fifty-one per cent. of the stock will be held in escrow. This association is organized to fight the meat trust.

The first carload of celery from Southern California has been shipped. The celery is of fine quality and is expected to bring a good price, celery and cauliflower are two new industries in Southern California and they promise much in the future.

California was allotted 40,000 square feet space at the St. Louis Exposition, but that has been found to be inefficient and more room has been applied for. The entire grounds to be occupied will double the area used at the Chicago Exposition and the buildings will be more magnificent.

The State Board of Trade estimated the value of the 77,538 car loads of fruit shipped out of California last year at about $35,000,000. This year it is believed the eastern shipments will reach 86,000 car loads. The following shows the shipments the past five years: 1898, 56,149; 1899, 55,482; 1900, 66,797; 1901, 83,731; 1902, 77,538.

J. B. Meloche, of Stockton, has made a careful calculation of the amount of beans raised in the state this year. He says the crop is 5000 tons less than last year. He has kept the bean record for four years and gives the yield as follows: In 1900, 18,375 acres and 16,000 tons; in 1901, 24,720 acres and 23,638 tons; in 1902, 28,180 acres and 25,633 tons; in 1903, 31,700 acres and 20,350 tons. He says there is on hand in the State 10,445 tons, or 249,000 sacks.

LIVE STOCK.

California has now $125.000.000 invested in dairies.

The anthrax among cattle in Inyo county has been stamped out.

At a late sale, held at Cloverdale, 300 bags of wool were sold at 13 cents per pound.

The Tulare Co-operative Creamery has been incorporated. The principal place of business will be Tulare.

King Edward VII, of England, is a great lover of pure-bred stock. He makes about $200,000 a year on his cattle.

In 1902 this State produced 28,783,859 pounds of butter and 5,000,000 pounds of cheese. It will make a better showing this year.

Dr. Charles Blemer, State Veterinarian, says: "We have had less trouble with cattle diseases in this State this year than ever before known in California."

Jacob Baier, a butcher in Denver, dressed a 1200 pound steer in three minutes and thirty-eight seconds. The feat was accomplished in a contest and beats the world's record.

George Jackson is arranging to establish a creamery with a fifty gallon churn at Altamont. He has fifty cows of his own and will use the milk of many cows owned by neighbors.

Nebraska is going to the front as a dairy state. One factory in Lincoln puts out 42,000 pounds of butter each day. California is naturally a better dairy state than Nebraska.

The Tulare Register says the law prohibiting the sale of oleomargarine, except under its own name, is proving to be a good law for the dairy farmers of the San Joaquin Valley.

John Cockcroft shipped 25,000 pound of mohair from Corning during the past week, and also expected to make another shipment from Orland during the same period. At least so says the New Era.

At a meeting of the Board of Health of this city, held October 23d, it was determined to raise the standard of milk allowed to be sold here. The proposition is to raise the percentage of butter fats compared with total solids.

A woman of Sonoma county aged 79 years, outclasses all her neighbors in poultry raising. She is a widow and for sixteen years has personally managed her farm and is making money. She raises some of the finest chickens seen in the county.

Organizer H. Murray, Judge E. F. Emery and others are canvassing Sonoma county and holding meetings urging the poultry raisers to join the county co-operative association of poultrymen. A thrifty branch has been organized at Cotati.

E. M. Wheeler, of Santa Ana, has just purchased of Mr. Sibley, owner of Moore Hill farm, Spencer, Mass., the young island bred bull Interested Mon Pleaisir, a son of Mon Pleaisir, the sire of Mr. Coutt's Pacific Golden Lad, and from an imported Island cow.

It is charged that swindling milk men in this city have been daily selling with their milk 5,000 gallons of water. The bad thing about it is that they do not use pure water in their adulteration. It is said many cases of typhoid fever are traceable to foul milk.

HORSES FOR SALE.

Some very fine driving horses and brood mares. I am closing out my stock.

MRS. L. J. H. HASTINGS
A. A CLEVELAND, MANAGER
Near West Gate of Race Track, Los Angeles

MILK ROUTE FOR SALE

Owing to my wife's failing health I am compelled to offer for sale my

Milk Route, 10½ Acre Dairy Ranch and 33 Head Well-Bred Dairy Stock

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C. A. STAMMER,
P.O. Box 1, Escondido, San Diego Co., Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

Signora Bruce Butter Test Oct. 7-13, 1903.

Editor Cultivator: Have just finished making an authenticated butter fat estimate of Signora Bruce 15457, owned by Guy H. Miller, Riverside, Cal. I presume a report of this test would be of interest to many of the readers of the Cultivator, as this is the first authenticated butter fat estimate made by an appointee of the American Jersey Club, New York City, N. Y., thus making this an official test, it will probably be of more interest that it otherwise would be.

I hope Mr. Miller has set a good example to Jersey breeders by heading the list of authenticated butter fat tests, as the cost of making these tests is very light, and of but little trouble to owners of Jersey cows, and of inestimable value to them. I should think every cow capable of making test would be tried out. The number is not great that is capable of making the required 14 lbs. of estimated butter containing 85 per cent fat in seven days, notwithstanding the many claims of owners of sows of all breeds. When they are put to the test there is no guess work. They must produce the milk that contains the fat equivalent to 14 lbs. of 85 per cent fat butter.

In looking over this report notice the difference in quantity of milk given, also the great variance in test of same, showing the fallacy of a single test of a cow to establish her worth.

SIGNORA BRUCE BUTTER TEST.

		Weight of each of the 14 milkings	Test Bottle No. 1	Test Bottle No. 2	Butter Fat in Each Milking	Total Daily Butter Fat	Daily Butter Estimate 85%
7	A.M.	19 lb	4 9	4.9	.931		
	P.M.	17 lb 12	4.8	4.8	.852	1.783	2.00
8	A.M.	19 lb 3	4.9	4.9	.940		
	P.M.	16 lb 13	4.2	4.3	.7145	1 654	1.94
9	A.M.	19 lb 10	4.7	4.7	.9223		
	P.M.	17 lb	4.6	4.6	.7820	1.704	2.00
10	A.M.	20 lb 3	6	6	1.211		
	P.M.	17 lb 8	4.4	4.4	.7700	1.981	2.33
11	A.M.	17 lb 5	5.2	5.2	.9001		
	P.M.	18 lb	5	5	.9000	1 801	2.11
12	A.M.	16 lb 15	4.6	4.6	.7791		
	P.M.	17 lb 4	5.1	5.1	.8797	1.658	1.95
13	A.M.	17 lb	5.2	5.2	.8840		
	P.M.	16 lb 7	5	5	.8218	1.707	2.00

Total Milk, 250 lbs.
Average Test, 4.94.
Total Butter Fat, 12.288.
Total butter 85% fat, 14.453.

Signora Bruce was milked out dry in my presence at 6:30 p. m., October 6, night before test commenced; she was milked in my presence each and every milking at 6:30 a. m. and p. m., for the following 14 milkings. I weighed the empty milk bucket before and after each milking, after which I immediately took out two samples. After milk was poured four times from one pail to another I took as soon as possible ½ test sample. I then took another ½ sample, then poured again for test bottle No. 2, until two tests were taken. I used guaranteed, accurately graduated test bottles, the pipetto used being the most perfect instrument I have seen or used, the most accurate obtainable. One can see the reading of bottles corresponds perfectly, there being no difference in reading but once during the test. The scales used I know to be correct. As I had the honor of the appointment by the A. J. C. C. to test this cow. I wish to say the test was made as carefully and accurately as is possible to be done, and the cow justly deserves the credit due her of 14.45 lbs. in seven days. I have sent my report to the A. J. C. C., where the test will be recorded in authenticated butter-fat book.

I noticed Mr. Miller fed 5 qts. of ground barley twice daily, and all the alfalfa hay the cow desired twice daily also. Now, if Mr. Miler was on to his job and could feed fat into milk, as some claim is possible, it is quite evident in my mind that a much larger record would have been made, and I further believe that there would be many more tested cows in California if breeders were told by knowing ones the secret. I notice, however, that in every case where it has been tried, they have failed to increase the fat, only as the increase of milk is produced, and in that proportion only—as will be seen in looking over report of this test. The flow of milk and richness of same fluctuates greatly with some cows; others not in so marked degree. It is possible to increase fat in milk. Also increase flow; but to increase fat for any great length of time is impossible. Walk a cow, say 8 miles a day for three days; at the end of that time you will see a marked difference in the fat in her milk, as also in her flow, which will be greatly decreased. A cow will produce a certain amount of fat and to make her increase 2 or 3 pounds more in seven days is the trick I would really like to learn.—C. S. Burgess.

A REFRACTORY COW.

Professeor Cook writes the Cultivator of a device he has made to cure his cow of lifting her feet while being milked. He says:

We think a great deal of our cow. We have reason to. She supplies four families abundantly with milk. She is a partnership cow as each family has one fourth interest in her. Like all good cows, she has a nervous disposition, and with very little provocation, while she is being milked, a foot is apt to rise altogether too vigorously for the comfort of the milker. It is not, however, difficult to keep her from doing any harm, yet it does make the time of milking a time of anxiety. I have borne this with meekness and patience now for two years. As the habit seemed to grow upon the cow I bethought me of a plan to stop it. I now use a short strap with two loops next to the buckle. I loop his about one foot just above the dewclaws and then buckle it about the other. She objected vigorously the first time, but now seems utterly cured. I recommend the strap.

Why do we abuse the horse when he is the best friend we have next to the dog.

VALUE OF MIXED FARMING.

The farmer who judiciously follows a good line of mixed farming is pretty sure to make a profit out of at least one line, while if, on the other hand, he confines himself to one special line of production, there is danger of taking it up just at the time when there is a depression in the very products he is trying to produce. Mixed farming should be carried on in such a way as to make the farm operations blend, and where there is a failure in one particular crop or division of live stock work, there will be some crop produced or branch of live stock that will come to the rescue. Of course, the getting of too many irons in the fire should be avoided. Develop those lines in mixed farming where experience has taught that there is greater possibility of gain than loss. Branch out into new fields gradually, but keep ever on the alert for new ideas. New lines of work should be worked into the farm plans slowly—but if done with care it may become educational in the studying of new crops, different breeds of live stock, etc.

Mixed farming is coming to the front rapidly in this country, due to the operating of small farms. The idea of extensive farming is spreading rapidly and the era of large farms is passing, and the success of our farmers, taken as a whole, today in most sections of the country is in depending upon the carrying on of mixed farming along up-to-date lines, putting brains as well as brawn into the work. —Fruit and Irrigation Age.

MAKING FARM BUTTER.

Better butter can be made on the farm than at the creamery if the same care is given. The managers of creameries secure the best assistance to be had. The advantages possessed by the farmer who makes dairy butter are that he can feed his cows on the best foods, use more care and work with cleaner surroundings. A large proportion of creamery butter is not uniform, as the milk come from many sources, but dairy butter is injured in the churning and manipulation of the product by inexperienced persons.—San Jose Mercury.

WANTED—A GOOD LOCATION for Bees convenient to Los Angeles. Address J. H., CULTIVATOR OFFICE.

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On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from **Fresno to Berkeley.**
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I have handled the U. S. Separator for the past five years. The first year I sold about 46 machines. Looking over my books this spring, five years later, I find there are 30 out of the 46 sold the first year that have cost their owners *not one cent* for repairs during the five years they have run them.
Altogether I have sold about 270 U. S. Separators.
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Dairying in California

(Continued from first page)

lower room of tank house is commonly used, and if painted a light color, so it can be kept shiningly clean, is as good as any place on the farm.

The newly drawn milk should be poured from one bucket to another several times before being strained into the shallow pans. A simple form of aerator is made by driving holes with a sharp nail into the bottom of a ten pound lard pail and suspending it two or three feet over the pans, letting the milk drip slowly through the holes, this will remove animal odors and gas from the milk. Milk taints do not come through the body of a healthy cow, they are from without, so if the alfalfa flavor is rank in the milk, bring the cow up an hour before milking time and let her breathe off the odor. Then while milking should there be any droppings cover them promptly with either earth or better yet with gypsum, and use the aerator to run the milk over. If the temperature of the milk room is above sixty, the cream rises in 36 hours and should be skimmed, if it does not rise completely the milk room is too cool. Heating the milk room from 90 to 100 degrees before setting will overcome this difficulty. The milk is ready to skim when it has begun to thicken a little on the bottom of the pan, it is well to wait until this shows or there will be too much loss of butter fat. The cream should be thick, for as it has to be held until enough is gathered for a churning, so if it contains too much milk it will sour too rapidly and then taint, making the cream rank. When adding cream to that already gathered it should be stirred thoroughly and particular care paid that there are no dried particles on top. If there is any tendency to bitterness the temperature at which the cream has risen and been held has been too low and the skimming too long delayed. Years ago we made butter at Fresno without ice, during the hottest weather. We found that setting the milk in cans 24 inches deep and 16 inches in diameter gave good results, the can was straight sided and covered with a flat tin lid. They were placed in poverty coolers, that is one made of a frame covered with gunny sacks and lined with clean white muslin, a tin honey can with small holes in each corner was filled with water and let drip down over the sacking, cooling the contents by evaporation. It was then possible to make sweet clean flavored butter in the hottest weather, though not perfection, as it carried more butter milk than was consistent with long keeping. In using these poverty coolers, nearly everyone makes them too large, as they can only cool by evaporating a limited amount. One for each milk can and one for the cream was found to be right. In skimming the cream from these deep cans, a small conical dipper is used so as not to force the cream down into the milk. There are many mistakes in washing the daily tinware that is unnecessary labor. They should first be washed in cold water until all the milk is removed—this takes away the albumen and matter that hot water would cook on the tin. Wash in hot water and sal soda to remove any casien and also remove the more greasy cream. Soap and soapy powders have no place among the dairy tinware and often are responsible for much mischief. Then, last of all, fill the cans with clean scalding water and let them stand for a few minutes; wipe the outside carefully and turn upside down on a rack in the sunshine, where the air is fresh and sweet. By having a double set and using a second set in the morning—the washing can be done at one time. The articles used at night can be rinsed with cold water and left until next morning for the scalding. A small separator saves much labor and it is only a matter of time, until they are, like sewing machines, cheap enough to be indispensible.

The cream from pan skimming having already begun to ripen, no cream should be added within twelve hours of the churning time, or there will be great loss of butter fat. When the cream is ready for the churn it should have a granular appearance and a sharply acid flavor, yet the smell should be clean, not in the least musty or tainted.

Where the extra butter is a source of revenue a uniformity of flavor is desirable, it is obtained by ripening the cream for each churning to exactly the same degree of acidity. The Farfington alkaline tablets are simple to use and not expensive. The Mann acid test is also used and costs five dollars for the outfit, which is rather more than the most of farmers' wives feel like spending. Good dairy butter when first made should be low in flavor, but high in aroma, the full flavor developing slowly and in forty-eight hours the butter should be at its best, while a month should elapse before it is rancid. Here the private dairy has a distinct advantage over the large creamery, as the milk delivered to the large plant comes from many sources and in all sorts of conditions. In order to save the butter fat the cream is ripened to the wire edge, and it soon cries "Wolf" as the Germans say of the overtuned piano.

If the weather is cool it may be necessary to help the cream to ripen by heating it to seventy degrees; wrapping the can up closely hold it at that temperature six or eight hours, then it should be cooled to 58 or 60 degrees, before churning. Some good buttermakers churn at 45 degrees. Anywhere between that and 62 degrees will make a butter from which the milk can be readily washed. Higher temperatures than 62 makes oily butter with little grain, and the buttermilk retained between the globules will quickly make it rancid. Sometimes the cream swells and adheres to the sides of the churn, the butter refusing to come, by adding water at 60 degrees and letting the cream stand to settle, the gases will escape and the butter come readily. If this occurs often it is well to rinse everything in use in the dairy with lime water to disinfect it of bacteria. During cool weather small portions of the buttermilk from a previous churning can be added to the cream twelve hours before churning time. This is a good way to ripen the cream provided the butter is good and the buttermilk carefully kept from contamination with bacteria. There was an opinion at one time that the cream from different breeds of cows required to be churned at different temperatures, but it has been found to be a fallacy, that cream is cream, ripe cream will churn quickly when at the right temperate. When the butter is the size of uncooked grains of rice, stop churning and let the butter milk off, but not draining so closely however that the butter falls into a mass. Add cool salt water until the grains of butter float, turn the churn a few times, slowly, letting the water wash out the butter milk. Let off the first salt water and repeat, take up the butter and work it, salting to taste. After six hours we prefer to work it again and make up into squares. Mottled butter is caused by uneven salting and if the butter when taken from the churn is quite granular, the salt will penetrate evenly, sometimes if the salt is warm, say 76 degrees, it will cause mottles, but the second working usually removes these. If it is desirable to color the butter and it has been forgotten to put coloring matter into the cream, it can be mixed with the salt. The small white specks that sometimes appear are formed in three ways, the common one is not stirring down the froth or wind pudding, as the milkers call it, that comes on the bucket from rapid milking. Another cause for white specks is allowing the top of the cream in the can to dry into hard lumps. Then there are the particles of cheesy matter made by skimming too closely into the clabbered milk. Either of these last causes can be removed by straining the cream into the churn. Using parchment paper around the butter will keep it sweet much longer by excluding the air.

Well made butter finds its own market, and though we have not been in the butter making business for nearly three years, we are constantly asked to start again by our old customers.

While many of our customers were delightful people there was always a few hard to please and slower to pay. When the butter was as perfect as care and cleanliness could make it, it had then to run the chances of a dirty refrigerator, full of scraps from spoiling food and ancient odors that smelled to the high heavens. I wish some of the members of the Board of Health could follow the men that deliver butter, milk and cream for a week, they might learn that the dairyman was fully as clean as their mothers had taught them to be, or as housekeepers are at the present time. When there is an excess of milk for home use, it can readily be stored away in the form of cheese for future consumption. We have made many cheeses and do not consider the work as difficult as making a good cake. The Hansen rennet tablets for cheese making come in sizes for one hundred pounds of milk. For a family cheese we use 25 pounds of milk, this making a cheese weighing between two and three pounds. The morning milk is strained into the granite bread pan. If at 85 degrees a quarter of one of the rennet tablets dissolved in a little cold water is added. If the milk is below 85 degrees, warm enough of it to bring it up to that temperature. Cover the pan closely with a cloth and let it stand for an hour, when it will be ready to cut. Use a long bladed knife and cut into squares of about an inch in size. Cover for ten minutes, and then dip off the whey carefully as there is danger of disturbing the cream, and the more cream held in the curd the richer and mellower will be the cured cheese. Sometimes it is necessary to break the curd

Advertising Column for Members

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Two Bull Calves

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A handsome golden fawn yearling son of SIGNORA BRUCE NO. 154547

Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address

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JERSEYS

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JERSEY BULLS OF ALL AGES

FOR SALE

Melia Ann and Golden Lad blood in lead. Write or come and see.

LEWIS BRADBURY - DUARTE, CALIF.

the second time to liberate all the whey. When the curd is ready to be scalded it should look crumbly and grainy. Heat enough of the whey to 90 degrees to cover the curds, pour it over them, gently stirring until the whey penetrates all parts of the curds, repeat this with a second supply of hot whey after ten or fifteen minutes. If the curds are cooked enough they will squeak when crumbled between the fingers. Draw off the whey and mix in with the hands a heaping tablespoonful of salt. Wet a cloth in the whey laid over the hoop and pile the curds into it. The hoop we used is simply the section cut off a gallon tin can. Lace the hoop on a folded cloth and fold one over the top, then a piece of board and weigh with flat irons. After six hours double the weights, after twelve hours slip off the hoop, put the cheese into a fresh cloth, wet with clean water, turn it the other side up and put on the weights again for twenty-four hours, then take the cheese out of the hoop and put a cheese cloth bandage around it on the edge and rub it well with butter, put it well covered in a dry warm place to cure, turning and buttering it daily, and changing the cloths over it. There will be little dampness after the fourth day. Remember by keeping it well buttered the outside will not harden and crack open. The cheese should be thick rather than thin and not cut for eight weeks after making.

Devonshire cream is a simple dainty and yet commands a ready sale. It is made by putting a pan of milk on which the risen cream has not been disturbed, and is perfectly sweet inside, a large pan of wafer and putting them on the stove, heating it slowly to aid evaporation but not to boil. When the cream thickens it is folded over on itself like an omelette and slipped off on a wet cold plate, when chilled it is ready to be cut into squares and served with fruit or be eaten on bread, or used as a dessert with sugar and cream.

Cottage cheese made with clabbered milk by scalding we are all familiar with, from it can be made a little fancy cheese that is delicious. Rub the curd fine and put into small two-inch tin moulds a little at a time, then put in a layer of thick cream seasoned with white pepper and salt, then a layer of curd, until the mould is filled, press over night under a heavy weight. These sell well at ten cents apiece. A variation that finds favor at lunch parties is made by putting chopped caper with a dash of mustard into the cream layer, sometimes water cress is used. When ready to serve slip from the moulds and cut into large pieces, serving on lettuce leeves with mayonaise sauce made with olive oil and lemon juice.

The American people do not eat enough cheese, for it takes the place of meat and with a little bread and some green vegetable or fruit to add the water portion to the diet it furnishes all the nutriment required for even those who do hard physical labor.

SAWDUST LITTER.

An abundance of clean loose litter is a great help to the horses and cows to protect them from the stable flies. Another advantage is to keep stables clean and free from the pungent odor which attracts these pests. Fresh sawdust is the best litter. Oak and chestnut sawdust is better than pine, which is liable to give an odor to the milk. Sawdust is cool, clean and an excellent absorbent, and a slight brushing of the cows and horses soon frees the skin from and adhering fragments.—San Jose Mercury.

VALUE OF THE DAIRY INDUSTRY.

Dairy Commissioner Wright, of Iowa, in an exhaustive article on the subject of the Dairy Industry points out the fact that there is no one factor in farm operations that has done more to help out the farmers of the country than the dairy cow. Her importance is much greater than at first thought it would seem to be. The growth of the dairy industry in this country has been gradual but sure, and no backward steps have been taken. "Improved and better cows" have been the watchwords. Iowa's State Dairy Commissioner, H. R. Wright, points out that the largest single line of agriculture save one, is the dairy. Its products with a value of $590,000,000 is greater than the annual value of hogs sold in the United States, $500,000,000; it is greater than the value of all hay and forage, $484,256,846; is is greater than the value of all the meat cattle slaughtered, $419,455,200; it is greater than the value of all the wheat produced, $369,945,320; it is greater than the value of all the eggs and poultry, $281,178,035, and it has a value almost twice as much as the value of oats, $217,098,584; sheep, $300,000,000; barley, $41,631,762; rye, $12,290,540; rice, $8,000,000, and buckwheat, $5,747,853, of the United States. It far surpasses the value of cotton, $330,000,000, and is second only to the value of corn produced, $828,258,326.

Commissioner Wright, while correct in the main proposition, must not forget the great mortgage lifter—the American hog. He is the farmers' never failing friend.

KIND OF BEEF THAT SELLS.

The steer which is the most profitable in the market on the present demand for carcass stuff, says the Provisioner, is the fairly finished beast, whose interior is not padded and whose hide is not cushioned out with fat. The meat of the finished steer is "food fit for the gods" but the average consumer does not care to render fat or buy a steak which contains a huge filler of suet. He wishes meat, and his wishes create the market demand for beef. It is seriously asserted by those who ought to know, that the flavored highly fed beef is not so good as that of the naturally matured and comfortably filled carcass nor is it as nourishing, there being more stearin than casein or albumen and more insipidity than flavor in the former than in the latter viand. Let that be as it may, the present grade of good beef sells more rapidly and is more profitable to all concerned than is the meat of the highly finished prime beef steer. Medium grade beef is the kind which nature produces on the ranges and flavors with her grasses. The cottonseed meal and the corn man take it at this point and sweeten it. The hurried forced growth and fat-stuffing process of the finisher produces a young sappy flesh, which is largely devoid of that beefy flavor which the eater of beef desires. The medium finished carcass is not so costly to produce, hence it sells cheaper and better in the general market. For the special customer and the oleo renderer the fancy prime steer is a necessity. The great army of meat consumers seek the other class of animal, and that is the trade which moves the stuff.—Arizona Cattleman.

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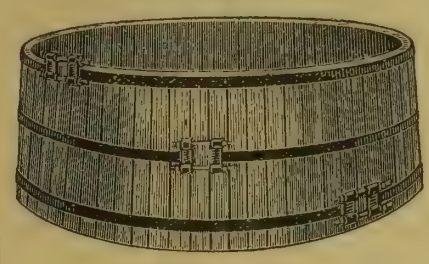

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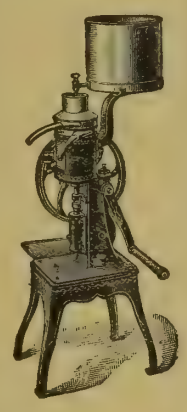

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

WILL APPEAR LATER.

I had intended writing on the work of bringing up brooder chicks, but the article is crowded out by answers to questions from subscribers, which have been unusually lengthy, so brooder chicks must be postponed a week. I would like to urge those who are just starting up their incubators for this season to have their thermometers tested, whether they are old or new, before commencing to incubate. It is a small thing to do, but a great deal depends upon it.

* * *

ANSWERS TO QUESTIONS.

Editor Cultivator:—Will you kindly answer the following questions in the columns of the Cultivator?

How much ground space is really needed on which to keep a hundred and fifty chickens? What kind of fixtures are the most suitable in the way of shelters, roosts, nests, and sheds? In fact an entire outfit needed for the above number of chickens? Will it pay to buy any of the prepared foods? If so, what kind? Is it advisable to feed rolled barley, particularly when fowls are moulting?—E. W. Taggart.

I would have to write a book to answer fully all these questions, I would advise you first to buy that excellent little book "Poultry West of the Rockies" from Henry Albers, 315 S. Main street, it will give you more information than I can put into the small space allowed in these columns. How much ground space is required for one hundred and fifty hens entirely depends upon your manner of taking care of them. I should say about an acre of land, but by keeping the yard exceedingly clean, constantly digging them over, giving the hens shade, and a good scratching pen, you can keep that number on a quarter of an acre. It all depends on you, how much real hard work you are willing to put in it, what you will do to help the hen in her efforts to make you money. But we will say that if you want to try on this small space. Divide the land into six pens about twenty-five feet by fifty feet in each. A house eight feet by ten for twenty-five hens to roost in, and a scratching shed pen about the same dimensions. The roosts for American breeds should be three inches wide, and should be removable to allow for cleaning them. Nests, I prefer the trap nests, but in any event the nests in this climate should be outside and away from the house the hens sleep in, this is on account of lice and mites. I find a moth ball in each nest a safe preventative. The scratching pen made of boards 12 inches wide, should be kept filled with clean straw or hay. All the grain food thrown into this hay and the hens kept busy all day long scratching and digging it out. This makes them lay more eggs as the exercise of scratching strengthens and develops the egg producing organs in the hens. Hens in this country must have shade as well as sunshine. If you have not trees or bushes you will have to provide shelter from the sun. You can drive stakes in the ground and make a frame work, on this lay palm branches or eucalyptus or any branches, even weeds will do. You can make cheap pens and cheap shelter in this way, or you can spend money in making good pens and build beautiful and costly houses, you must suit your own pocket book and your own taste in this. I can only give you an outline of what is needed In answer to what kind of food is desirable I would say a "balanced ration." You ask what is a balanced ration? and this brings me to your question will it pay to buy any of the prepared foods, if so what kinds? The prepared foods are "balanced rations," and it will most decidedly pay you to buy them, follow exactly the directions of the makers for feeding them. What kinds? I have used and am using the feeds sold by the houses which advertise in this paper (see ads in the Cultivator). These "balanced rations" are made up of many different grains ground and mixed and animal food, charcoal, and grit added making a food which when analyzed shows the same elements as an egg. It really is putting into the egg machine (the hen) the proper material for forming an egg, and if your machine (the hen) is bright, clean and in good running order (healthy) by using balanced rations you cannot fail to get eggs. Rolled barley is good for fowls, I feed it once a week. I prefer wheat to any other steady diet, but prefer a variety of grains, and I feed a great deal of green food, clover, lawn clippings and alfalfa, lettuce, cabbage, beets, etc. If you intend going into the poultry business, come out to Prospect Park, near Hollywood, and see my ranch, it will help you, and I am always willing to answer questions and gladly give pointers on the chicken business.

* * *

One Form or Roup—I would like very much to know what is the matter with my chickens, also what I could do for them if anything could be done. A swelling comes on one side of the head in front of the eye, and then a yellowish white growth comes over the eyeball, from the front inside of the eyelids. In a few days the other side begins to swell in the same way. They rub the eye a great deal, so there must be some irritation. The eye waters somewhat, but the nostrils are clean and there is no discharge from them. The fowls seem to be in good health otherwise. In the past week I have had two such cases. The first one I kept cooped up away from the other chickens for a few days and saw that the other eye became affected the same way. It got no better so I killed it. But the other I killed as soon as I noticed it, because I was afraid it was contagious. I never saw anything like it before among my chickens. Please answer through the Cultivator.—A Subscriber, Pomona.

What you describe is one form of roup and as such is contagious. Dr. Salmon, in his valuable book on diseases of poultry, gives the following description and remedies to be used: "Roup is a contagious disease, which is localized upon the mucous membranes of birds. That is, the microscopic parasite which causes the disease, develops and multiplies upon and within the mucous membranes of affected birds; escapes from their bodies, with the discharge from nostrils and eyes; soils their feathers and also the litter and other objects about them; when dried it is dissipated through the surrounding air, in the form of dust by every movement of the bird or of the soiled objects, and by every breeze that disturbs the contaminated surface. This dust, containing the germs of the disease, as it floats into the air is drawn into the nostrils with the breath or lodges within the eye. When the germs reach the moist and warm surfaces of the membranes lining the nostrils or eyes, they find favorable conditions for their continued multiplication. They penetrate the membrane, set up irritation and inflammation, and as a result there follows catarrh, ulceration, and the formation of purulent and cheesy deposits about the head.

Treatment—If the disease appears use disinfectants freely and isolate diseased individuals. Antiseptic and healing applications are indicated to the interior of the nostrils the cleft of the palate, the eye and other affected parts. If swelling containing thick pus or cheesy matter form upon the head, they should be opened with a sharp instrument, the contents removed, and the wound treated with antiseptics. Antiseptic powders such as iodoform and aristol are convenient for wounds. Antiseptic solutions may be injected into the nostrils and into the cleft n the roof of the mouth which communicates with the nostrils by using a small syringe or even an oil can such as is used for oiling machinery. The solutions most suited are boric acid fifteen grains to the ounce of water (half teaspoon to half cup A. B.); carbolic acid and two per cent. solution; peroxide of hydrogen diluted with an equal quantity of water; permanganate of potash one grain to the ounce; or sulphate of copper, five grains to the ounce. Some persons have reported success from the use of coal oil (kerosene) either pure or diluted with equal parts of olive oil keep the birds comfortable and free from draughts. Give stimulating and easily digested food, containing small portion of meat scrap. It is important to dispose of the carcasses of dead birds promptly by burning or deep burial."

I have quoted at length from Dr. Salmon, as he is the great authority on chickens' diseases, being employed by the government as expert for that purpose. You cannot do better than follow his advice, but in addition I would strongly urge you to do as I have already advised, keep blue stone (sulphate of copper) in the drinking water of your fowls, sick or well. It is a well known disinfectant, a slight tonic, very cleansing and healing. All of the roup cures that have to be placed in the drinking water have the stone as the foundation. Blue stone and permanganate of potash mixed are

EGGS FOR HATCHING
—FROM—
PETALUMA FAMOUS WHITE LEGHORNS
Price according to quantity and market quotations. Address
The A. R. COULSON CO.,
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Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
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MAGIC AND INTERNATIONAL POULTRY FOOD
If You Want Up-To-Date Poultry Supplies,
Buy of the Largest Poultry and Seed House in Southern California
Pacific Coast Agents for
CHAMBERLAIN'S CHICK FEED
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500 CHICKS $4.00 Four Dollars $4.00 500 CHICKS
WORTH OF
Croley's Dry Mixed Chick Feed
Will carry 500 chicks safely over the Danger Line—all of them. Most economical. No cooking. No mess. Always ready to feed. Saves time. Saves labor. Saves millions of chicks.
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Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.
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in Cronkey's, Flood's, Germazone and many others. Blue stone costs ten cents a pound. I always use blue stone in the water at the roupy time of year and with perfect success, a piece of the size of a small bean in a quart of drinking water.

* * *

Chicken Pox—Will you please tell through the columns of the Cultivator what to do for chicken pox. Our chickens have little sores on their heads, both old and young are affected, they are otherwise in good condition. Fed on barley.—W. T. W., San Dimas.

Chicken pox, sometimes mistaken for warts on the head, is not usually a dangerous disease, it will kill off young chicks quickly if neglected. It can easily be cured by greasing the spots with carbolic salve or carbonated vaseline twice a week. They will heal up in ten days or less. Or you can bathe the heads in warm soap suds, and afterwards in a solution of sulphate of copper (blue stone) a teaspoonful to half a pint of water.

Chicken pox is very infectious, the premises should all be thoroughly disinfected by spraying with the kerosene (or distillate) emulsion to which has been added five per cent of crude carbolic acid. The feeding troughs and drinking vessels should be daily washed in boiling water.

THE ADVANTAGES OF FARM LIFE.

It is the farmer's boys who are most likely to succeed, whether in business or in professional life. Spending most of their time under the open sky, breathing fresh air and eating simple food, they are more likely to have vigorous health and strong constitutions than are their city cousins. Brought into constant contact with nature, they absorb a great deal of useful knowledge and acquire habits of observation Then, too, the regular farm work, the "chores" and numberless other little things keep them well occupied and enable them to feel that they are earning their way, thus giving to them a sense of independence and cultivating a spirit of self-reliance and manliness.

The performance of a deal of drudgery is an indispensible preparation for all real success in life, whatever the occupation. A boy who is afraid of work or of soiling his hands need not expect to accomplish much in the world. Country boys have their full share of fun, but there are many disagreeable duties on a farm which farmers' boys learn to accept as a matter of course. Edward Eggleston, speaking of the value of his farm training when a boy, once said to me: "I learned one thing of great value, and that was to do disagreeable things cheerfully."—February Success.

ANSWERS TO QUESTIONS.

Do you consider the Douglas mixture good for moulting hens? Please give the receipt for it.—J. F. Y.

Douglas mixture is a first class tonic, and if used judiciously as such is of extreme value in the poultry yard. It is made thus:

Sulphate of iron ½ lb.
Sulphuric acid 2 oz.
Water 2 gals.

The acid must not touch the flesh or clothing, at least not until diluted. The easiest way is to omit the water at the drug store and add some warm water after you get home.

Dose, a teaspoonful of above to every quart of water used for drinking by the fowls: The drinking vessels while using this tonic must be of glass or glazed earthenware.

A BOY POULTRY RAISER.

Walter V. Howe, of Omaha, Neb., is cutting quite a figure as a successful young poultry raiser. He is but thirteen years old, and, according to his own statement published in the Nebraska Farmer of June 4 last, he is successful to a very high degree. Walter caught the chicken fever last fall, when he and his chum went into business together, visiting the commission houses and buying chickens until their money ran out. The back yard of Walter's home was to furnish the accommodations for the new business. The first two or three weeks things went along swimmingly, and the young business men could see immense profits piling up in the prospective. As time went on Walter's chum proved a poor business partner, Walter doing all the work. A dissolution of partnership was thereupon agreed to and each took with him the chickens that he had bought. Since January 1 last Walter has been conducting business on his own hook. He says he now has twelve non-Union hens and one rooster, a mixture of Plymouth Rocks, buff Cochins, Brahmas, and three bantams. He has thirty-two young chickens, with a hen due to hatch in a few days. He has kept an accurate account of his receipts and expenditures since January 1, showing that he has gathered 681 eggs, a large number of which were sold at 25 cents a dozen. He has disposed of some of his hens and bought better ones, and has cleared $6.15, besides having had lots of fun and learn something. Walter says if there is a boy in Nebraska that can beat his record he would like to see the color of his eyes and have him tell when, where and how he did it.

We would prefer a small flock with plenty of room to a flock of the best layers in the world which is crowded.

There is greater activity in the poultry business just at this time than ever before. The business is growing by leaps and bounds.

The eighth annual exhibition of poultry, pigeons, cats, dogs, and pet stock, under the auspices of the National Fanciers' and Breeders' Association of Chicago, will be held January 25th to 30th inclusive, A. D., 1904.

Poultry believes in reciprocity. If you will give them care and attention and the right kind of feed, they will return the favor by giving you lots of eggs.

Do not think you can make money out of poultry without putting time, energy and earnest thought into it.

The best preventative of roupe and other infectious diseases is perfect cleanliness about the poultry house and ground. No medicine can successfully combat filth, darkness and dampness.

Feed the hens the best when they lay the fewest eggs. If they are moulting they need heavy feeding to help them to a new suit and if they are not laying it is because they are not properly fed.

Do not forget to store some dry earth for winter use in the dust boxes. We like to use road dust, but if this can not be had we have found garden soil, dried, equally useful.

ROUP and CHOLERA

Get the Habit of using PALMER'S POULTRY POWDERS in your poultry pens and you will have no other.

PALMER'S POULTRY POWDERS — Trade Mark

We have what you've been looking for—a guaranteed cure for Roup and Cholera something that cures in every case if used according to directions. Palmer's Poultry Powders—the only infallible remedy ever offered the public for Roup and Cholera. Manufactured in your own State by the

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$1.00 Per Package

LEE'S EGG MAKER

When fed according to directions will make more eggs than any other known food. Bought by the car load and sold in 25-lb. Pails for $2.00; 2½-lb. packages, 25c.

LEE'S LICE KILLER
"The Only One Imitated."

Henry Albers
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White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.

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On account of the health of a relative I wish to sell my home, "The White Plume Ranch," one and one-half acres of land, between Los Angeles and Hollywood, with the good will of the business, prize winning fowls, ducks, turkeys. It is income-making property. Apply on the premises.

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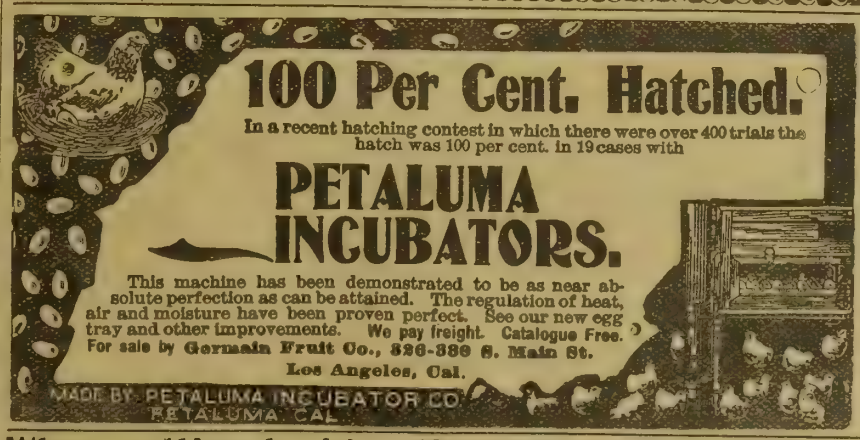

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

STREET TREES.

A Pomona subscriber regrets that his district is planted with about a dozen sorts of street trees and wishes to know what are best for the purpose, that he may work for uniform planting.

Although the subject of street trees has been very fully covered in this department several times, the season for planting is close at hand and the question may be profitably discussed at this time.

First, it was with regret that the writer saw in a daily paper the intention of the Highland Park Improvement Association to plant the Monterey Pine (Pinus radiata) on some of its streets. Conifers or cone bearing trees should, at all times be allowed to retain their branches to the ground, and this is impossible along streets unless a space of at least twenty feet is left between sidewalk and curb. Trimmed up in the ordinary street fashion, the Monterey pine is a sorry looking object. Our best writers on the subject have for years been trying to educate the public regarding the proper treatment of conifers, and it is strange that a live community like the above should err in this direction.

The uniform planting of street trees is dependent for success upon co-operation. The residents upon a certain street should vote upon a street tree and the kind receiving the largest number of votes should be used. Some are bound to be disappointed, but should gracefully yield to the majority. All streets should be planted with but one sort of tree to each street and it is best to plant the principal street, and those parallel with it, entire, and then let the cross streets be planted afterwards. A bridge or some other radical break in the continuity of the street is the only excuse possible for changing the sort of tree. It will pay in the end, if streets have been planted with a mixture, to take out all the odd ones, no matter what the size or age and replant. All the property on that street will have the value increased by such a method. No finer landscape effects are to be gained in a town or city than by having long lines of trees of but one sort. A street so planted may be likened to a garment of but one kind of cloth, while the mixed planting has the effect of one made up of cloths of every conceivable color, size and texture.

The writer's favorite street tree is the Victorian Bottle Tree (Sterculia diversifolia). It has been closely watched for several years past and stands well the test of time. The one illustrated stands in Pasadena, where the tree is much used. On the car line running up to Altadena may be seen various kinds of street trees, perhaps more than a dozen sorts, yet the Bottle Tree looks and grows best of all. It is one of the cleanest of trees, of a bright, pleasing shade of green, the trunk is straight and mast-like, the branches are not far reaching and therefore not liable to injury by wind, needs little, if any pruning; it is a fast grower when well supplied with water, yet noted for its drought-resisting qualities. Its general outline is well-nigh perfect, its carriage graceful, it does not grow so thick as to harbor dead leaves and rubbish, yet enough to cast all needed shade, seldom does one make abnormal growth and it will not injure the sidewalk by upheaval of the soil. What can surpass it in number of points.

The tree most used in California for street planting is the Blackwood (acacia melanoxylon) though in the writer's estimation is neither second or third best. There are other acacias that far excel it, yet some streets should be planted with it. Acacia floribunda of the trade are A. retinodes floribunda of the botanist is a most excellent tree and improves with each year of growth.

Ceratonia Siliqua, the Carob Tree or St. John's Bread is a most excellent tree and one that will steadily grow in favor. Nothing but its scarcity has ever been urged against it and as it is a very fast grower, a town or community might grow their own supply.

For a deciduous tree, the pecan has been growing steadily in favor for several years, and the Texas umbrella should appear in every extensive planting.

Some of the streets should be planted to palms, to gain variety, and for this purpose the Chinese Wind-mill palm (Trachycarpus excelsus) is the best, for several reasons. This palm is known to nurserymen in general as the Chamaerops. Where the soil is well drained to a considerable depth the so-called Dracenas (Cordyline indivisa

Sterculia diversifolia

and C. australis) are fine for palm-like effect.

Grevillea robusta is an excellent tree for dry localities, but is much objected to for its disgusting habit of dropping leaves each month of the year. Then, too, the wood is brittle and they will require pruning each year.

Our list might be extended to a great length but the following, in the order of their desirability, would give sufficient variety for any community: Platanus orientalis, the palm tree (deciduous); Acacia's Mollisima, dealbota decurrens, cyanophylla, longifolia, and neriifolia, Pittosporums eugenioides, lenuifblium and undulata; Lagunaria Patersonii; Ligustrum lucidum, at least three species of eucalyptus: rudis, polyanthema and ficifolia; but not the one most used, E. robusta. A tree much like the latter in appearance, but superior for street purposes, is E. calophylla.

It is not generally known that our live oak (Quercus agrifolia) is a most excellent street tree, for few have given it a trial, but it will grow from ten to twenty times as fast in cultivation as when left to chance and when of a suitable size would easily stand at the head of the list. Mr. Abbot Kinney, who has experimented with them for a number of years, states that fair sized young trees are quite easy to transplant. Where available, one street at least in every community should be planted with them.

POT FLOWERING PLANTS.

The soil for most flowering plants should not be too rich, and to induce plants to flower well it is best to let them become pot bound. There is a natural law that when plants find they cannot continue to grow, they always endeavor to reproduce their species, which is by flowering and producing seeds. Experienced gardeners take advantage of this law and starve their plants after they have made a fair growth. This always induces them to flower much more profusely than if kept growing all the time.

To this end, all flowering plants should be grown in as small pots as possible, for instance, cinerarias or geraniums are better in 5 or at most a 6-inch pot than in any larger sizes. Ferns, palms and other foliage plants should also be grown in small pots, but since they do not flower, we cannot practice the starvation process on them, but when they have filled their pots with roots, a little nitrate of soda given in homoepathic doses occasionally will be beneficial to them.

BIG SUGAR BEET RETURNS.

At Los Anamitos about 47,000 tons of beets have been sliced and 11,000,000 pounds of sugar sacked thus far this season, and within a radius of five miles in all directions of the factory the farmers have been busy for months delivering their crop. The disbursements the 15th of this month for September delivery of beets amounted to upwards of $78,000 and for the season the payments amounted to over $175,000 for beets alone.

Prosperity prevails amongst the beet growers this year and this augurs well for the coming season.

THE BOYS ARE ALL RIGHT.

Mrs. Belle A. Matthews of Santa Ana writes for a copy of the Cultivator which had been lost, and says: My boys would sooner lose a meal than go without the Cultivator.

Those boys will make good farmers. Watch them.

The growers of wine grapes at Geyserville and Healdsburg are taking steps to organize a growers' association. They propose to establish their own wineries and they are much dissatisfied at the prices of grapes fixed this year by the wine manufacturers.

Another meeting of poultrymen has been held at Santa Rosa to consider ways and means of organizing the poultry raisers in Sonoma county into a co-operative association. This far the effort has not been enthusiastically received, especially by the Petaluma poultrymen. At a late meeting W. J. Curtis said: "The advantage of co-operation is that it eliminates the commission men." He cited a case that one rancher had saved $8.00 on thirteen cases of eggs by dealing through the co-operation.

At this writing the San Francisco game market is in a muddle. Several lots of wild ducks were confiscated, and there is a large quantity on the dock, uncalled for, as dealers are in fear of arrest should they accept lots of more than fifty each. Poultry prices are down, mainly because so much has been shipped in from the east.

The announcement is now made that as a result of the serum tests cattle are going blind in Contra Costa county. On one little ranch twelve cows have gone blind. The owner believes his misfortune is due to the squirrel serum. The farmers are afraid the horses will be next infected.

The poultry market in San Francisco has been dull since the game season opened, October 15. At this writing the market is glutted with wild game. About four carloads of poultry from the east have been arriving for some time.

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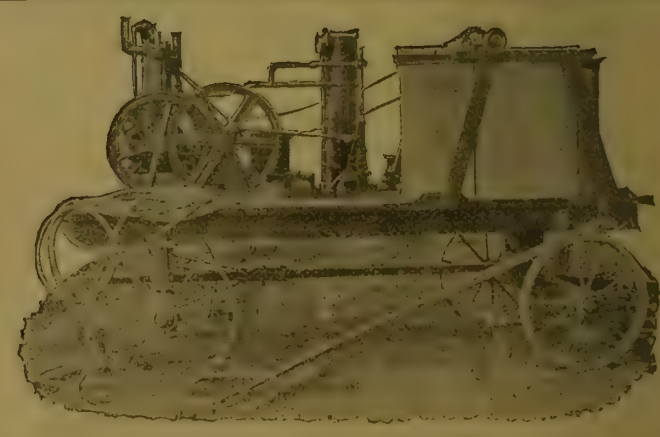

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BEAN SPRAY PUMP CO., San Jose, Cal. SANTA CLARA ST.

DE LAWD'LL SEE YO' FROO.

Sometimes de sky got lots o' gray
An' mighty little blue,
But jes' yo' keep a-peggin' 'way—
De Lawd''ll see yo' froo.
Yo' keep a-peggin' 'way,
Dat's all yo' got to do;
Jes' do yo' duty day by day,
Be suah y' don't fuhgit to pray—
De Lawd'll see yo' froo.

Ah wen' to him de oddah day
An' ast Him what to do.
He said, "Yo' keep a-peggin' 'way
An' Ah will see yo' froo."
Yo' keep a-peggin' 'way
An' jes' be good an' true;
Be suah yo' don't forgit to pray,
An jes' yo' keep a-peggin' 'way—
De Lawd'll see yo' froo.
—Frank A. Marshall, in Lippincott.

GOING HOME.

Williams, of Arizona, was down on his luck. He had been five years in the gold territory, and had confidently looked forward to each succeeding year, enabling him to go back home and make things comfortable for the woman and little ones. But each succeeding year had found him precisely where the previous one had left him—a sanguine prospector, with a wealth of hope and a pitifully small outfit. He had frequently struck promising veins, and had hurried to his tent to write glowing, exultant letters to the woman who was waiting for him, but somehow the claims had always petered out prematurely.

But this last find had been different. He had taken out sixty dollars a day for a week, and with this substantial evidence of coming prosperity had written a letter which filled the far-away home with sudden joy. Then the vein had disappeared, and he had picked and shoveled and hauled away dirt until his money was exhausted. But the gold was there—he was sure of it, and his confidenie induced the trader at Three Forks to advance him funds. However, there had been a shaft to sink, and solid rock cut through, and it had all been expensive. When it was accomplished, the money was gone and there was no vein.

He was still confident, but the trader was angry, and had accused him of false pretenses. Only this morning he had received intimation that the sheriff was about to levy on his mine, his "Molly," named after the dear one it was to do so much for. He was a strong man, hardened to ordinary weaknesses, but as he sat there on the rough boulder tears began to drop from his eyes and roll down his bronzed, bearded face.

He was aroused by approaching footsteps. When he looked up two men stood before him. One of them was the owner of the adjoining claim; the other was the sherin.

"I have come to—" began the officer.

"Yes, yes, I know." Williams rose heavily to his feet. "It's all right, Just go ahead. I can do nothing."

The sheriff looked at him curiously. "Oh, 'tain't quite so bad as that," he laughed. "I did 'low on makin' a levy, but Kansas here has been tellin' me something that has changed my plans. You needn't bother about that jest now."

"I s'pose ye heerd 'bout my luck?" Kansas asked blandly.

"Yes." Williams looked at him stolidly, Kansas was a person of established shiftlessness, and yet only a few days before he had struck it rich, and was now a man of wealth and consequence.

"I've got a pretty vein," Kansas went on frankly, "but it dips to'ards you un's land. If thar's a pocket I 'low hit's acrost your line. I don't s'pose ye'd be willin' to sell out clean, but if ye'll go pards I'll give ye ten thousand for a half share." He waited a moment, but, as there was no reply, added: "I'll make hit twenty for a clean job, but of course ye won't quit?"

Williams looked down into the valley and up the mountain, and then across to the east, where the sun was just rising above the pines."

"Yes, I'll quit," he said huskily, "You can buy me clean out—I'm going home."—Frank H. Sweet.

DON'T WAIT FOR THE FUNERAL.

"If folks could have their funerals when they are alive and well, and struggling along, what a help it would be!" sighed Aunt Jerusha, folding her Paisley shawl with great care.

"Now, there is poor Mis' Brown," she added, as she pinned her Sunday bonnet into the green veil. "How encouraged she'd have been if she could have heard what the minister said today. I wouldn't wonder one mite if she'd got well. And Deacon Brown a-wiping his eyes and all of them taking on so. Poor soul, she never dreamed they set so much by her.

"Mis' Brown got discouraged. Yer see, Deacon Brown he'd got a way of blaming things onto her. I don't suppose the Deacon meant it, 'twas just his way, but it was awful wearing. When things wore out or broke, he acted just like he thought Mis' Brown did it on purpose, and they all caught it like the measles or whooping cough.

"And the minister a-telling how the deacon brought his wife here when it wasn't nothing but a wilderness; and how patiently she bore hardships and what a good wife she had been. Now the minister wouldn't have known anything about that if the deacon hadn't told him. Dear, dear! If he'd only told Mis' Brown herself what he thought, I do believe he might have saved the funeral.

"And when the minister said how the children would miss their mother, seemed as if they couldn't stand it, poor things. Well I guess it is true enough. Mis' Brown was always doing for some of them. When they were singing about sweet rest in heaven, I couldn't help thinking that was something Mis' Brown would have to get used to, for she never had none of it here.

"She'd have been awfully pleased with the flowers. They were pretty, and no mistake. You see, the deacon w'n't never willing for her to have a flower bed. He said 'twas enough prettier sight to see good cabbage a-growin,' but Mis' Brown always kind 'o hankered after sweet smelling things, like sweet peas and such.

"'What did you say, Levi? 'Most time for supper? Well, land sake, so it is! I must have got a medatating. I've been thinking, Levi; you needn't tell the minister anything about me. If the pancakes and the pumpkin pies are good, just say so as we go along. It ain't best to keep everything laid up for funerals."—Aunt Jerusha in New York Herald.

APPRECIATION.

There is so much in appreciation in this world; not that people need flattery, but a just recognition of what they do. It makes life's burdens a good deal easier to bear if we drop a word of encouragement, now and then, to those who we know are working under difficult conditions. It matters not whether man or woman, the value of an encouraging word is seed sown that will grow luxuriant plants, which blossom into flowers by and bye.

As a general thing it may be said, with truth, that women need kind words, and words of appreciation oftener than men. Their work is of a more nervous character. Their organism more sensitive and susceptible to depression, therefore easily affected by pleasant suroundings and kindly expressions, or words of appreciation —or the reverse.

It costs so little to speak gently to the tired wife; to notice what she has done and commend her work. Half the worry has gone out of the day when, at night, she pillows her head with a pleasant thought of some word of affection, carelessly dropped, by the one from whom appreciation comes with greatest delight.

"So often the lines of the sad face relax,
And the eyes grow bright
With a tender light,
From a word that is fitly said."

We ought not to wait until those we appreciate are gone from us to express our value of their worth. It matters little what we say or do when so called death closes the eyes and ears of our friend or companion. What he or she wants are kindly words while they are here. Well did Ingersoll express the thought, when in that beautiful oration he declared, "Praise and blame fall alike unheeded on the cold and pulseless ear of death."

And then, too, how great will be our comfort as we stand by the bier of the loved one who has gone away, to think, "I did what I could" to smooth the rough pathway in life's uneven journey.

And in the coming of that brighter day, when companion's congenial here, shall meet in the spheres above; when families shall be re-united to separate no more; when the good and the beautiful shall come into our being, in that proportion which our lives here warrant the inflow of the divine thought, for "as we sow so shall we reap," how grand will be the mutual greeting, as softly falls upon the ear of the soul born into spirit life, the loving welcome of the dear one over there. Kindness, thoughtfulness, appreciation of one another, and above all little words of affection are jewels which shall flash with a radiance beyond description, in the future crown of the man and woman who send them forth on their mission of love to bless and encourage a tired heart.

So let us cultivate the habit of appreciation and of recognition of the good in others, for by so doing we add blessings to their lives and happiness to our own now and hereafter.

How aptly does Ben King express this thought in the following beautiful poem:

"If I should die tonight,
My friends would look upon my quiet face
Before they laid it in its resting place,
And deem that death had left it almost fair;
And, laying snow-white flowers against my hair,
Would smooth it down with tearful tenderness,
And fold my hands with lingering caress—
Poor hands, so empty and so cold tonight.

"If I should die tonight,
My friends would call to mind with loving thought,
Some kindly deed the icy hands had wrought;
Some gentle word the frozen lips had said;
Errands on which the willing feet had sped;
The memory of my selfishness and pride,
My hasty words would all be put aside,
And so I should be loved and mourned tonight.

"If I should die tonight,
Even hearts estranged would turn once more to me,
Recalling other days remorsefully;
The eyes that chill me with averted glance
Would look upon me as of yore, perchance,
And soften, in the old familiar way;
For who could war with dumb, unconscious clay!
So I might rest forgiven of all, tonight.

"O, friends, I pray tonight,
Keep not your kisses for my dead, cold brow—
The way is lonely, let me feel them now.
Think gently of me; I am travel-worn;
My faltering feet are pierced with many thorns.
Forgive, O, hearts estranged, forgive, I plead!
When dreamless rest is mine I shall not need
The tenderness for which I long tonight."

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YOU BROUGHT ME FLOWERS.

You brought me flowers! Blush roses, three,
  Not guessing all they held for me;
The day was dark, and I alone;
  Life sang to me in monotone,
While every hope afloat at sea
  Seemed wrecks upon the sands to be;
While chilly winds were making moan—
  You brought me flowers.
As 'twere love's mantle overthrown
O'er all the sky a radiance shone;
Hope swung her snowy canvas free;
Because, because, dear heart, you see,
When I was aweary, sad, and lone,
You brought me flowers.
—Mrs Sarah Wolverton.

A Short Love Story.

"Ralph, am I going to die?" asked Norman Bradford, in a weak voice.

Dr. Adair's keen black eyes suddenly dimmed as he looked into the face of his friend. His voice was husky as he tried to answer cheerfully:

"My dear fellow, while there is life there is hope."

"Ralph, your reply is evasive. I must know the truth. Can I live?"

For a moment the physician's lips quivered. His heart was touched. He took his patient's hand as he said, tremulously:

"No, my poor fellow, your hours are numbered."

"I thought so," calmly returned the sick man. "Call Bessie, then kindly leave us together for a while."

The doctor left the room, and soon a pretty girl, with large blue eyes, entered.

Do you want me, Guardy?" she asked in low, sweet tones.

"Yes, Bessie. Close the door, please, and come to me."

She obeyed. When she had reached his bedside Norman took her hands in his feeble clasp.

"Bessie, the doctor says I am dying. You are poor, and when I die will be friendless. I want you to inherit my wealth. There is but one way in which you can do that without reproach, dear—you must become my wife."

The girl literally held her breath. How was she to answer him? Once, twice, she essayed to speak, but, though the lips moved, no words came.

"It will be only for a few hours at most, Bessie," the weak voice went on, "and it will comfort me inexpressibly to know that I leave you provided for."

There was not a word about love. Bessie looked searchingly into the pale face, and her own color faded.

"I cannot," she said. "But—Oh, dear friend, it is hard to know that I must lose you."

So Bessie Graham knelt by the supposed death bed of her guardian, while the minister, who had been quickly summoned, spoke the words that made them husband and wife.

Bessie was an orphan. When her father died he left her—then a child—to the care of Norman Bradford, his esteemed and trusted friend, and most faithfully had that friend discharged the obligation.

Bessie's scanty fortune had been sufficient to educate her; but now the last dollar was spent and she was dependent on her guardian for support.

As child and maiden she had looked up to him as her dearest friend. Now that he was dying and wished her to be his wife, she never dreamed of opposing him; his wish was her care. Her tears fell fast as she knelt there.

* * * * * *

With the last words of the ceremony the close clasp of his hand relaxed, and she thought he was gone. But he was not dead; only sleeping.

Dr. Adair shook his head as he examined his patient's pulse and said he could not possibly survive the night; but he was mistaken; the morning brought a decided change for the better. It was even possible that he might live.

Bessie watched over her husband faithfully. She could not have been more watchful for his comfort—more solicitous for his recovery.

But as the weeks passed and Norman slowly struggled back to life she began to avoid being left alone with him. He noticed the change and it troubled him greatly.

"She does not love me and regrets our unfortunate mariage," he thought, sorrowfully. "It is more than I can bear! Why did I not die? Death would have been preferable to this torture.

"I cannot endure it—I cannot. I must go away."

So the next morning, before Bessie made her appearance, Norman left the old home and went to the city, some twenty miles distant, for the purpose of making arrangements with his lawyer, who resided there, for his wife's support. As yet he was undecided what his next step would be.

When Bessie went to breakfast she was surprised to find a note beside her plate. She hastily tore it open and read:

"Dear Bessie—I am going away. Forgive me that I did not say farewell. I dare not meet you again. Forgive me, too, for the wrong I did you in asking you to marry me; had I dreamed that my life would be spared I never would have fettered you so. But Ralph said I had but a few hours to live, and, before heaven, I believed him.

"You have borne it patiently; but trust me, Bessie, you shall be free again. I claim nothing of the past, and I can restore to you the future. Two years must elapse, however, before we can obtain a legal separation.

"I wish you would stay in the old home with your faithful servants until other arrangements can be made. Just now I am too mentally shattered to think of our future. It will be best for you not to write to me; what comfort would your letters be to either? You cannot love, and I must have your love or nothing. Yours ever.—Norman Bradford."

For several minutes Bessie sat staring at the words before her, her breath coming in short, quick gasps. Then she rushed down the stairs and almost into the arms of kind Mrs. Powell, the housekeeper, who had been a mother to the orphan since her guardian's home had been her abiding place.

"Auntie, please tell me where Norman is?" she pleaded. "I must go to him."

"But, dearie, why the need? He has only gone to see his lawyer, Mr. Latimer."

"Oh, you don't understand. He has left me forever'" Said Bessie, with glowing cheeks and sparkling eyes. "I love my husband with all my heart and strength, and he must know it' I must go—it would kill me to stay here."

In an incredibly short time the excited girl was ready for her journey, and the day was not far advanced when she found herself at the law office, where she learned that Norman had been too ill on his arrival to transact business, and Mr. Latimer had taken him home with him.

Bessie entered a cab and was rapidly driven to the lawyer's residence. She was shown to the room which had been prepared for Norman's exclusive use. Here, on a sofa, she found him stretched, motionless, with closed eyes, as though asleep.

She quietly advanced until she stood beside him.

Suddenly the gray eyes opened, and Bessie, with a broken sob, flung herself by her husband's side, and was gathered to his breast in an ecstacy of passionate joy.

"Am I dreaming?" he said huskily, "or is this indeed Bessie Graham?"

"Not Bessie Graham, dearest Norman, but Bessie Bradford, who has come to tell you that she loves you with all her heart' Oh, Norman, we have both suffered unnecessarily. I thought you married me for pity, not for love, while I—well, I must have loved you always, I think."

"My precious wife," You have given me back my life," cried her husband.

And Bessie, meeting the gaze of his love-lit eyes, no longer doubted his love.—Yonkers Statesman.

WRITE DIRECT TO BAY VIEW.

Editor Cultivator: Will you please tell me through the California Cultivator where information can be obtained about the Bay View Reading course for literary clubs? It is frequently mentioned in the papers and seems to be in much favor. If you could give some description of it in the California Cultivator, I feel sure it would be, just at this time, a real favor to many others who may be looking for plans for a literary club.—Etta MacFarlane, San Francisco.

The Bay View Reading course embraces a regular literary and scientific programme laid out for several years work for individuals or clubs. The books furnished by the association are exhaustive and valuable as authorities on the subjects treated of. The best way to secure the desired information regarding the course is to write to the Secretary of the Bay View Reading Course, Bay View, Michigan.

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Recipes...

Apple and Rice Compote.—Make a syrup of a cupful of sugar and half a cupful of water. Drop into this medium tart apples pared and cut into quarters. Lift out when they are tender but unbroken, then add to the syrup a little stick cinnamon, or orange peel, and cook until thick and rich. Have a mold or baking dish lined with steamed rice; into this place the apples and strained syrup, and cover with a slightly brown meringue.

Apple Butter.—Boil fresh cider down to one-third. To every gallon add three quarts of apples, not too sour, pared and quartered, one teaspoonful ground cinnamon, a quarter of a teaspoonful of ground mace, and three cupfuls of sugar. Stew carefully so that it does not burn, and stir often. When very thick and smooth remove from fire. When cold put in stone jars.

Apples en Surprise.—Take large baking apples and cut off a slice from the blossom end. Scoop out part of the inside and fill the apple shells with a mixture of sliced bananas, seeded raisins, chopped nuts, a little grated lemon or orange peel, and sugar to taste. Replace the slice cut from the top, and bake slowly with a little water in the pan.

Cider Apple Sauce.—There are two ways of making this. One is to boil the cider down to a third, and then cooking in it pared and quartered sweet apples. This is to simmer for several hours, being almost constantly stirred, and when thoroughly soft and of a rich brown color, it may be canned or simply cooled and packed in jars. It differs from apple butter in that it is made from sweet apples, and that no sugar or spices are used. The other process calls for dried sweet apples. Boiling the cider down to half will be rich enough for this, as the dried apples are much richer than fresh ones, and besides the mixture will need longer cooking, which also adds to the richness. Stir very often, to prevent burning, and when done simply put in jars.

Apple Shortcake.—Stew some good cooking apples in as little water as possible, and press through a colander while warm. Add to a pint of this half a cupful of sugar, one teaspoonful of butter, nutmeg and cinnamon to taste, and a little grated lemon peel. Have ready a good shortcake, made in two layers and buttered; spread with the apple, lay the other piece on and serve with sugar and cream.

OILY HAIR AND DRY HAIR.

If your hair is oily or full of greasy scabs, wash it every morning with tar soap. After this, dry it thoroughly, and then rub with a small sponge saturated with the following mixture: Distilled tar-water, two hundred and twenty-five grams; chlorate of potash, seven and one-half grams, liquid ammonia, three grams.

After spreading it out at night, powder it well with the following powder: Salicylic acid, four grams; hydrochlorate of pilocarpine, two grams; powdered sulphur, twenty-four grams; borax ten grams; starch-powder, twenty grams; talcum powder, one hundred and forty grams.

If, on the other hand, your hair is too dry, brittle, and your scalp scaly, you must first wash your head with a decoction of soapwood, and then apply some of the following pomatum. Vaseline. forty grams; lanoline, twenty grams; birch-oil, four grams; borax, two grams; esence of sandal, twenty drops.—Woman's' Home Companion.

A FEW FACTS ABOUT SILK.

There is but one paper in the United States published in the interests of silk production, yet we, as a people, use more silk than any other nation in the world, next to China. Although we use a vast quantity we produce little, yet there is not a region of country on earth that can produce finer silk, nor so many crops of silk in a year, as this country can. There are now more than nine hundred silk factories in the U. S., and the statistics of this year show that we have imported no less than $50,000,000 worth of silk, reeled and raw, to keep these factories going.

The demand for silk is on the increase all the time.

In Georgia and North Carolina the people are working up to this very important industry. The State Agricultural Commissioners are helping them, as also the wealthy citizens. They have organized "The Silk League of America" in Georgia, and have already put in 1700 acres of mulberry trees in one locality, besides many other smaller tracts in other localities. The League has secured one of the two silk reeling plants that the Agricultural Department brought over from France and have sent their first skein of reeled silk to Washington. Their monthly paper, "Silk," not yet a year old, has a circulation of 10,000 copies. This fact surely shows a lively interest in the silk business. Yet with all this manifest pluck and enterprise they have as yet a silk season of only six weeks to go on. They are still operating on the old Italian methods, never having ventured out on the higher plane of raising several crops a year. Italian experts tell them that the mulberry tree will not live if its leaves be taken more than once a year; so without testing the matter they take it as a fact that the silk season is only six weeks, just as it is in Italy and France.

Since the multicanlis fever (as the silk rage of fifty years ago is called) there never has at any time been so much interest manifested in the silk business as at the present time. All classes are beginning to enquire, "Why do we send out of the country for $50,000,000 for an article that we can produce at home?"

Certain facts are fully established in this business. First we have a much larger acreage to select from that will produce the mulberry tree than any country where silk is produced. Second, our soil is as good and will produce as good foliage in less time than any silk country known, where the best silk of the Bambex Mori is produced.

Third, our climate embraces all latitudes and altitudes, so that if one technical difficulty arise in a certain locality another can be tried. Soil and and climate have been demonstrated beyond all dispute to be favorable to the production of silk in this country, especially in California, where there can be no fault for the silk industry but with the people.

Yes it is a fact that the trouble is with the people, who are not educated on this line of industry. In Italy there are 400 schools and colleges where they educate the youth of the land in all the intricacies of the silk business, from the raising of the tiny silk worms to the weaving of the finest fabrics.

Would not such schools be of profit in this country? Would it not be well to interest the public in this infant industry? It seems to me we shall profit thereby.—Mrs. Carrie Williams, San Diego.

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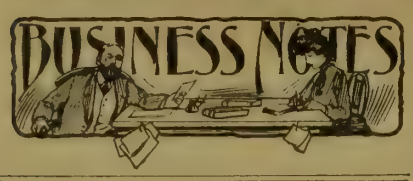

MIDLAND FOODS.

Our second page this week shows that the old favorite, the Midland Poultry Food is still in the field and is talking of its merits. Its friends say its strongest talk is in the poultry yard, where it shows its worth in the health of the stock and the products of the nest. The Petaluma Incubator people are coast general agents, but it is handled in almost every town.

* * *

Frost prevention has not yet become an exact science, but the possibilities of saving an exceedingly valuable crop when only a few degrees are required is proved by practical experiments for years. One of the first systems was the coal basket plan, which has been more lately superseeded by the oil pot, or the briquette, made of crude oil and some substance compacted into a mass which slowly burns with heat and smudge sufficient to make several degrees differe nce. Another feature of safety is an automatic frost alarm. These will be more particularly touched upon next week and a special article on frost protection will occupy the first page of our paper.

* * *

Emerson disc plows are advertised this week. Better, they are advertised every week by those who have used them and find how admirably they work under nearly all conditions. But the extension of business into new fields calls for reaching new customers through the Cultivator columns. The old, reliable Newell Mathews Co. are handling them.

AN OPPORTUNITY.

Any one in search of an opportunity to secure a modest living with a small investment in a business and a cosy home combined may read with profit an ad on another page of this week's issue regarding the offer to sell the White Plume Poultry ranch at Prospect Park. This is the property of Mrs. Basley, who has charge of the Poultry Department of this paper, and is stocked with prize winning White Rocks and Indian Runner ducks.

The writer of this had the pleasure of a visit to this little place a few weeks since, and found much of interest in the fine stock and in the convenient arrangement of yards and houses. The place is small—an acre and a half. It has a cozy cottage home, barn, poultry buildings, two wells and wind mills and better than all, it has a reputation for fine stock which is a business bringer. Mrs. Basley has believed in keeping prize winners, has kept them and has won the prizes.

The property is an income bringer at the present time, is in a part of the city in which it is pleasant to live, only a few minutes from the business center of Los Angeles.

Sickness in the family compels Mrs. Basley's attention elsewhere is her reason for disposing of this property.

The olive crop in Southern California which is now being harvested, gives evidence of a better yield than last year. In the territory about Los Angeles it is estimated 5000 tons of olives will be harvested.

The oranges are beginning to turn yellow at Oroville and growers there are of the opinion that the entire crop will be marketed by Thanksgiving.

Weather conditions during the week were very favorable for raisin making and fruit drying, says McAdie, section director. The first crop of raisins has been secured in excellent condition and heavy shipments are now being made to eastern markets from the Fresno and San Diego districts; it is reported that the yield is greatly in excess of last season's. The second crop of raisins is said to be light in some sections; curing is progressing rapidly. Late grapes are still abundant, and large quantities are going to wineries and shippers. The prune crop is nearly all dried and under shelter; the yield is below average, but the fruit is of superior quality. Other deciduous fruits are all secured except late apples, which are yielding an excellent crop. Walnut picking is progressing, and the crop is below average, though the quality is said to be good. Oranges continue in excellent condition and are coloring rapidly; the outlook is good for an unusually heavy yield in all sections and the fruit is reported of very fine quality. Tomatoes are yielding a good crop. The honey yield in Southern California is excellent.

The lima bean crop is now reported very good, though somewhat less than early estimates. Sugar beet season has closed. The new crop of celery is in market. Farmers in some sections are preparing to seed a large acreage of grain, and plowing and seeding are in progress. Pasturage is scarce.

SAN JOAQUIN VALLEY.

Heavy shipments of the first crop of raisins are being made from the Fresno district, where the yield is reported much greater than last season's. Prune drying is practically completed; the fruit is of unusually good quality, but the yield is generally below average. Oranges continue in good condition and are coloring rapidly. The last crop of alfalfa has been secured, and thrashing continues. Pasturage is scarce, but cattle are healthy and in good condition. Plowing and seeding are progressing.

SOUTHERN CALIFORNIA.

Clear, warm weather prevailed during the week, with fog along the coast. Raisins are drying slowly and evenly, and large quantities are going to the packing houses; several carloads have been shipped east from San Diego. Fruit drying is nearly completed. Citrus fruits are in excellent condition and coloring rapidly; it is expected that the orange crop will be much above average in quantity and quality.

Since the law went into effect last July, authorizing the exclusion of impure foods, Dr. W. H. Wiley, chief of the National Bureau of Chemistry, inspected 205 cargoes of imported goods. He condemned twenty per cent. of these cargoes. Of the rejected goods five were Rhine wine and contained salicylic acid; two white wine contained sulphuric acid; four olive oil contained cotton seed oil and were mis-branded; three Frankfurter sausages contained preservatives injurious to health; four canned vegetables were covered with lead tops that come in contact with the food; one vinegar which was also misbranded; one cargo of coloring matter for foods containing coal tar dyes.

The Bureau of Immigration, in a statement just issued, reports that we receive from other countries in August 64,977 immigrants, as against 45,549 in August last year.

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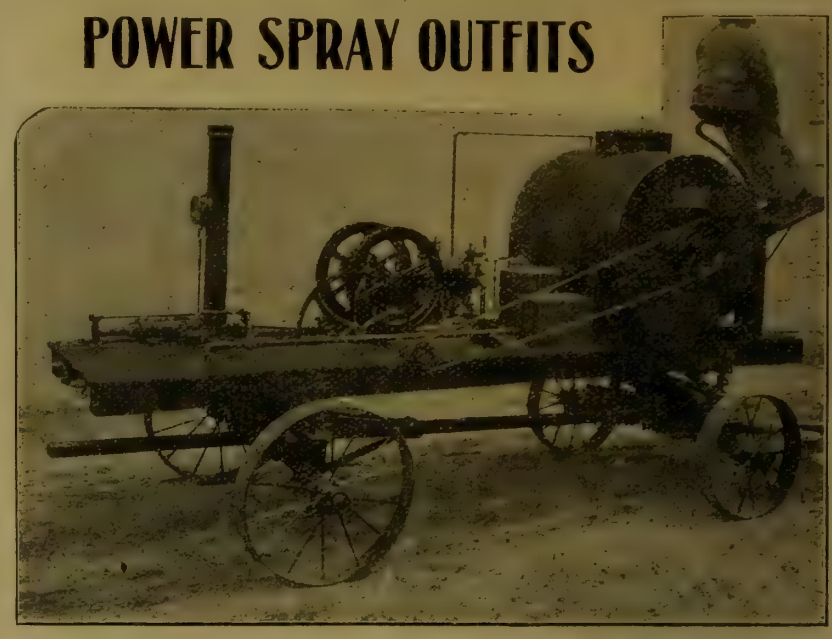
POWER SPRAY OUTFITS



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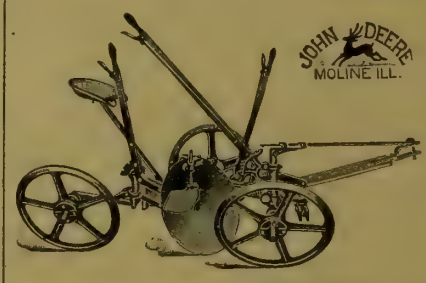

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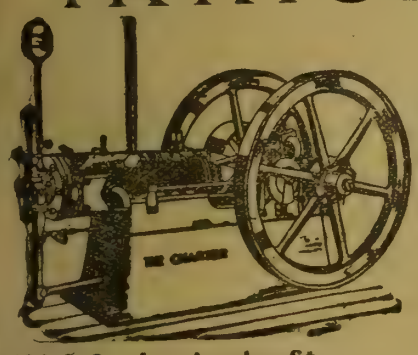
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Los Angeles Markets.

LOS ANGELES, Cal., Oct. 29.

The vegetable market has shown a large decrease in quality this week owing to the closing season and frost in the northern country. Fruits share the same decrease.

Good potatoes are scarce for the very best grades, but the tone is a little easier on all other grades. Northern potatoes are coming in freely.

Onions are slow; local about cleaned up.

Butter situation unchanged.

Ranch eggs very firm, other kinds firm and scarce.

Lima beans weak; pinks fairly steady.

Poultry scarce.

Demand for game somewhat lessened.

Hay firm.

Butter.

B. of T. Creamery, per 2lb roll		70
So. California, dairy, do	.65	67½
Cooking	52½	57
Cold storage	.50	60

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.37	.38
Fresh Eastern	.29	.30
Store, case count	.25	.26

Potatoes.

River, cwt		.90
Salinas, do	1.50	1.40
Local, do	.50	1.25
Sweet Potatoes		1.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

Vegetables; Mixed.

Onions, yellow, cwt		.90
Beets, per 100 lbs		1.00
Cabbage, per 100 lbs		90
Carrots, per sack		90
Chilles, green per lb		.03
Caulinower	.40	.50
Lettuce, per sack	.25	
Tomatoes, 30 lb box	.25	.50

Fruits; Fresh.

White figs, 20-lb box		.60
Black figs, 20-lb box		.50
Strawberries, box, fancy	.05	.10
Pears, northern, Bartletts, bx		
40 lbs		1.50
Peaches, per box		1.00
Limes, per 100	.90	1.25
Northern apples, 40 lbs	.75	1.25
Four tier belleflower		1.25
Local, box 30 lbs	.25	.60
Guavas	.04	.05

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08
Peaches, per box	.40	.75
Peaches, per box	.40	.50
Local belleflower, 30 lbs		.60
Northern apples, 40 lbs	.50	.65

Poultry.

Spring Chickens	.15	18
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb	.16	.17
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa	10.00	12.00
Corn		1.25
Barley		1.02½
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley	1.15
Bran	1.30
Feed Corn Meal	1.50
Middlings	1.45
Cracked Corn	1.45
Oil Cake Meal	1.65 1.75
Chicken Wheat	1.60
Cocoanut meal	1.50

San Francisco Markets.

Dairy.

San Francisco, October 29.

Fancy grades of the better lines of butter continued in good demand all the past week. Trade in the cheaper quality continued unsatisfactory in volume, with prices at about last week's quotations.

BUTTER—Per lb:

Creamery, extras	.29 @30
Creamery, good to fancy	.26 @28
Dairy extras	.24 @25
Dairy choice	.22 @23
Store	.18 @20
California Storage	.24 @27
Eastern Creamery	.23 @25

CHEESE—Per lb:

Cal. Creamery, mild new, extra	.14 @15
Cal. Creamery, mild new, choice	.13½@14
Young America	.14 15½
Eastern, New York Cream, Cheddars and flats, new	.14½@16

Eggs and Poultry.

The buoyancy and vigor to the demand for Eggs has entirely disappeared and under the cautious operation of buyers and the willingness of holders to sell, the general market is in an unsettled state. Prices were shaded rather sharply from the previous week, and while in a small way for an extra lot of selected Ranch as high as 55c may have been exacted, there were comparatively liberal supplies of first quality stock to the had within the quoted range of prices, which were generally deemed conservative. Cold storage Eggs were steady at former prices and a good trade was in progress.

EGGS—Per doz:

Ranch, selected large	.52 @53
Ranch, good to choice	.45 @50
Store	Nominal
California storage	.30 @33
Eastern	.25 @30

Trading continued comparatively slow in the Poultry market during the week, but as there were no arrivals of Eastern stock and as receipts of local Fowls were moderate general conditions varied but slightly.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $4@5; Fryers, $3.50@4; Broilers, large, $3@3.50; small, $2.50@3; Hens, small, $4.50@5; large, $5.50@6; Ducks, per doz., old, $4.50@5; young, $5@6; Turkeys, young, per lb., 20@22c; old, 14@17c; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz., old, $1@1.25; Squabs, $2@2.25.

Fruits and Vegetables.

Potatoes have been coming into market quite freely this week, which has had atendency to depress prices, but the demand has been good and the quality of potatoes is very fine.

VEGETABLES—Tomatoes, per box, 25@50c; Green Peppers, per box, Bell, 50@60c; Chile, 25@40c; String Beans, per lb., 1½@3c; Wax, 2@3c; Lima, per lb., 3@4c; Green Peas, per lb., 2½@3½c; Egg Plant, per box, 40@60c, Summer Squash, per box, 35@50c; Cucumbers, per box, 40@50c; Garlic, per lb., 3@4c; Okra, per box, 40@65c; Marrowfat Squash, per ton, $10@$12.50; Hubbard, $12.50@15.

ONIONS—Yellow, per ctl., 50@85c.

POTATOES—Per ctl.: River Burbanks, 40c @75c; Early Rose., nominal; River Reds, 50@65c; Salinas Burbanks, $1@1.40; Oregon Burbanks, 75c@$1.10; Sweet Potatoes, $1.25.

Fruits and vegetables show considerable advance in prices over last week, the change being most marked on garden stuff.

APPLES—Per box, common to choice, 25@85c; fancy, $1@1.25.

PEACHES—Per box, nominal.

PEARS—Per box: Winter Nellis, $1@1.25; other varieties, per box, 35@75c.

PLUMS—Late Red, per box, 50@65c.

FIGS—Per box, $1@1.25.

NUTMEG MELONS—Per box, 40@85c.

TABLE GRAPES—Per small box, 25@50c; crate, 40@65c; Isabella, 50@60c; large box, 75c @$1.25, as to variety; Wine Grapes, per ton, Zinfandel, $17@21; Mission, $14@17.

POMEGRANATES—Per small box, 50@75c; large box, $150@2.25.

PERSIMMONS—Per box, 50c@$1.

QUINCES—Per box, 40@60c.

BERRIES—Per chest: Strawberries, Longworth, $7@10; Malindas, $1.50@$3.50; other large varieties, $5@6; as to quality; Raspberries, $5@6; Huckleberries, per lb, —; Cranberries, per bbl., Cape Cod, nominal; Oregon, per box, $2@3.

TROPICAL FRUITS—Bananas, per bunch, Hawaiian, $1@1.75; Bluefields, $2@3; Pine apples, per doz., $1.50@2.50; Dates, Fard, per lb., 7@9c; do Persian, 6@6½c.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, nominal; Valencias, $2@2.75; Lemons, $1@3; extra, $3.50; Grape Fruit, $1.50 @2.50; Limes, $4@4.50.

Dried Fruits, Nuts, Etc.

The buoyancy to the demand for Dried Fruits has been entirely dispelled and rather a quiet tone has settled over the trade generally. Prices, however, show no quotable

variance, as stocks are not regarded as excessive and there is a certain confidence displayed by some large dealers in the future condition of the market. No new business of any importance has been reported during the week and the only interesting feature noted was an inquiry for small Prunes from European sources. As stocks of these are light, asking prices have been too high to warrant any large sales. The season for Nuts is opening under favorable conditions and firm prices are prevailing for present supplies. Honey is moving slowly and the market is easy under liberal supplies.

DRIE DFRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 5@6c; Sun Dried, 3½@4c.

Apricots—Royal, fancy, 9½@10c; choice, 8@8½c; Moorparks, choice, 10@12c.

Peaches—Choice, 5¼@6½c; fancy, 8½@9c. peeled, in boxes, nominal.

Pears—Choice, 6½@7c; fancy, 8½@9c.

Plums—Pitted, 5@7c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 3@3¼c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Black, 4@4½c.

NUTS—Per lb: California Almonds, hard shells, 8@8½c; soft shells, 8@8½c; soft shells, 10@11c; paper shells, 11@12c; standard, 9@9¾c; Pecans, 11@13c;Pinenuts, nominal; Peanuts, Eastern, 6@6½c; do, California, nominal; Brazil, 10@11c; Filbert, 10@11c; California Walnuts, soft shells, No. 1, 13½c; do, No. 2, 11c; hard shell No. 1, 13c; do, No. 2, 11c; Hickory, nominal;; Chestnut, California, 10@15c; Cocoanuts, $4.50@5 per hundred.

Beans.

There was a fair volume of business in progress in the local market for Beans during the week and the prevailing prices were maintained with a marked degree of steadiness. Brokers reported a lively trade in shipping channels at full quotations and several straight and assorted car lot transactions were closed. Seeds continued nominal in price.

BEANS—Prices per ctl.: Large Whites, $2.50@2.85; small do, $3@3.25; Pea, $3@3.25; Lima, $2.85@3; Red, $2.90@3; Pink, $2.40@2.70; Bayo, $2.25@2.40; Blackeyes, $2.25@2.60; Red Kidneys, $4.25.

Live Stock.

In sympathy with the weakened markets in eastern centers and under liberal supplies the local market for Hogs has assumed an easier tone and prices are a fraction lower. Otherwise the market for Live Stock is without particular change, prices ruling steady and the demand continuing of satisfactory volume.

CATTLE—No 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6½@7c; No. 1 Cows and Heifers, 6½c, second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb.: Hard grain fed, weighing alive 130 lbs and over, 5½@5⅝c; weighing under 130 lbs, 5¼@5⅜c; weighing 260 to 350 ibs., 5@5¼c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13 @$16.50; Wheat and Oat, $13@15.50; Oat, $11.50@14.50; Barley, $10@13; Clover, $9.50@$11.50; Alfalfa, $9.50@12; Stock, $8.50@10.50.

STRAW—Good to choice, per bale, 55@65c.

FEED CORN MEAL—Choice grades, per ton, $30@31.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26.50@29.

BRAN—Per ton, $22@23.

CRACKED CORN—Choice quality, per ton, $30.50@31.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $16.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

Hops.

The price for new crop is 20@22½c, according to quality.

Wool.

Fall clip, per lb.: California, Plains, 8@10c; Foothills, 10@12c; Middle Country, 11@13c; San Joaquin Lambs', 9@11c; Northern Free 11@12c; do, Defective, 10@11c; Humboldt and Mendocino, 1214c; Nevada, 13@15c; Oregon, 17@19c.

Eastern Markets.

Grain and Produce.

CHICAGO, October, 28.—Under the influence of the large export busines of yesterday and more reassuring news from St. Louis in regard to the bank situation there, wheat opened firm, with a good general demand. December being up ⅛ to ¼ at 80¾@80⅞. Traders watched carefully the action of the St. Louis market, and when prices there began to decline, soon after the opening, apprehensions of further trouble seized the pit and a selling movement was begun, which became general when the December option at St. Louis showed a loss of over a cent within the first hour. Prospects of increased receipts in the Northwest also helped in bringing out selling orders, and the market soon became weak, December declining to 80⅛. Late strength in corn, with a recovery at St. Louis caused fair buying by pit traders and the early loss was was all regained, December closing ¼ higher, at 80⅞. The early strength in wheat caused a firm tone in corn at the opening, but later, with the decline in wheat, there was much corn for sale, and prices eased off. December closed at 44½, a gain of ⅝ to ¾. Oats were influenced mainly by the action of wheat and corn, showing some decline early in the session, and later rallying and closing at a small gain. December closed ⅜ higher, at 38½. Trade in provisions was extremely dull, but inclined to firmness, considering the decided weakness in hogs reported from the yards. Buying by packers was the chief source of support. Closing prices were firm, with January pork up 10c; January lard a shade higher, and ribs 5c higher.

Grain Movements.

Articles	Receipts.	Shipments.
Flour, barrels,	43,900	22,700
Wheat, bushels	267,300	246,900
Corn, "	424,900	679,600
Oats, "	431,800	295,800
Rye, "	12,400	3,200
Barley, "	190,100	11,500

Chicago Live Stock.

CHICAGO, October 28.—Cattle—Receipts, 25,000; Texans, 7000; western weak; good to prime steers, 5.30@5.75; poor to medium, 3.60 @4.85; stockers and feeders, 2.25@4.10; cows, 1.35@4.25; heifers, 2.00@4.75; canners, 1.35@2.50;bulls, 2.00@4.60; calves, 2.00@6.75; Texas-fed steers, 2.75@3.50; western steers, 3.00@4.75. Hogs—Receipts today, 26,000; tomorrow, 20,000; 10@15c lower; mixed and butchers', 5.25@5.60; good to choice heavy, 5.25@5.50; rough heavy, 4.90@5.20; light, 5.10@5.50; bulk of sales, 5.20@5.45. Sheep—Receipts, 30,000; sheep and lambs steady; good to choice wethers, 3.00@3.75; fair to choice mixed, 2.00@3.00; western sheep, 2.25@3.85; native lambs, 3.25@3.75; western lambs, 3.50@5.00.

California Dried Fruits.

NEW YORK, October 28.—While demand is not particularly active, the market for evaporated apples continues firm, with common quoted at 4@4½; prime at 5⅞@7; choice, 6¼@6¾, and fancy, 7. Spot prunes show little improvement, and demand is unchanged, with quotations ranging from 3¼@7 for all grades. There is a fair demand for apricots, with choice puoted at 4¼@5½; extra choice at 10@10½, and fancy 11@12½. Peaches are rather quiet, but are steadily held at 7¼@7¾ for choice, and 7¾@8¼ for extra choice, and 9¼@10¼ for fancy.

CITRUS MARKETS

CITRUS FRUIT SHIPMENTS. Carload shipmnets of citrus fruit from Southern California to eastern points reported are as follows, the season beginning November 1, 1902:

Up to Wednesday, 22,384.

Of the season's total 2757 carloads are lemons.

The orange market showed considerable fluctuation during the week. In the early days the prices varied according to the supply furnished.

On Monday four car loads of oranges sold, bringing the highest prices of the season, $6.35 to $8.00 per box, or an average of $7.41 per box.

Tuesday but one car load was sold, which brought $6.85. No lemons or grape fruit were sold. As will be noticed in the quotations below lemons are bringing specially high prices, and the prospect is that they will continue to command good prices for some time to come.

At auction points a good winter market is expected. There will be a demand for all the fruit of first quality that will be offered.

AUCTIONS.

NEW YORK, October 19.
C. C. U., Riverside, Favorite Valencias, $3.15. Delicious, $2.45.

PHILADELPHIA, October 19.
Market strong. Duarte Monrovia. Ft. Ex. Iris Valencias $4.50. Violet, $3.90. Primrose, $3.30.

CLEVELAND, October 19.
Market steady. Semi Tropic Ft. Ex. Red Farm Valencias, $3.80. High Flyer Val., $3.35. Sierra Madre lemons, $4.60. Red Farm lemons, $4.65. High Flyer lemons, $2.60.

NEW YORK, October 21.
Riverside Ft. Exchange. La Mesa Valencias, $3.75. Golden Rule, $3.25. Golden, $2.10.

PITTSBURG, October 21.
Market steady. O. K. Ft. Exchange. Quail Valencias, $3.45. Owl, $2.85.

NEW YORK, October 22.
A. C. G., Fruit Exchange. Azusa. Stag Valencias, $6.00. Pointer, $3.45. Hunter, $2.65.

BOSTON, October 22.
Market steady. C. C. U., Ontario. Lilac Valencias, $3. Lighthouse. $1.75.

PITTSBURG, October 23.
C. C. U., Rialto. Marguerite Valencias, $2.90.

CLEVELAND, October 23.
Market weaker. C. C. U., Ontario. Lighthouse Valencias, $2.40.

BOSTON, October 23.
C. C. U., Fullerton. Ruby Valencias, $5.65. Sapphire Valencias, $4.50. Amethyst, $3.70.

NEW YORK, October 26.
A. H. Fruit Co. Golden Orange Valencias, $5.20. Squirrel, $4. Silver lemons, $6.40. Squirrel lemons, $5.60.

BOSTON, October 26.
Market steady. C. C. U., Fillmore. Flamingo Valencias, $4. Azalea, $3.75. Sunrise, $3.15.

PITTSBURG, October 26.
Market steady. S. A. Fruit Ex. Volunteer Valencias, $3.25. Morning Glory, $2.40.

CLEVELAND, October 26.
Riverside Fruit Exchange. Blue Print Valencias, $2.40. Criterion, $1.85. Criterion Sweets, $2.35. Palm Tree Valencias, $3.20.

RAISIN FIGURES. From Fresno comes the informaion that the quantity of raisins received by the association up to October 17 was footed up this week and shows in round numbers 54,000,000 pounds. On the same date last year the receipts were 42,000,000, which makes an excellent comparative showing. It is estimated that about five-eighths of the crop is in, which will make the total crop over 86,000,000 pounds. Last year the crop was 80,000,000 pounds, or an excess this year of at least 6,000,000 pounds. This means a large addition to the wealth of the raisin-growing counties, though the gain has come from increased acreage. The average yield per acre will fall considerably short of last year.

Dr. W. H. Miller, Health officer of Kings county has notified all persons engaged in or carrying on butcher business, or sale of meat supplies for public use, in Kings county, not to sell or offer for sale, meats or animals fed upon diseased carcases or offal from slaughter houses, except it first be thoroughly and perfectly boiled.

SUMMONS.
No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.
(Seal) By C. O. Winters, Deputy Clerk.

SUMMONS.
No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.
By C. O. Winters. Deputy Clerk.

Griffiths, Munson Briquette Co.

TELEPHONES { MAIN 806 / HOME 806 }

Office, 128 Hellman Blk. Works, Atlantic St. and Santa Fe Tracks

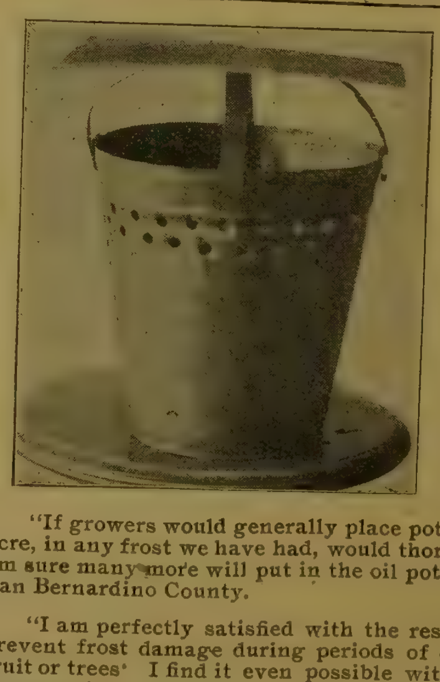
Los Angeles, California

Orchard Briquettes are in size 12 inches by 6 inches and 5 inches in thickness, weighing about 9 pounds each. They are to be burned in the orchard on the ground, requiring nothing to contain them, and being entirely consumed unless intentionally extinguished. Two or three are inclined towards each other, forming a pyramid, leaving free vent beneath for air passage, at which point the torch should be applied. No kindling is required. It will burn long enough to meet the requirements of the usual cold night. In orchards where some degree of protection is afforded by wind breaks or trees being large and close together, two Briquettes are used to the fire, twenty-five fires to the acre, one ton being sufficient to protect four acres for one night. In open and more exposed groves we suggest using three Briquettes to the fire or one ton to three acres for one night's fires. It is best to use the extra Briquette on the first two rows of fire on the exposed side of the grove.

Briquettes are impervious to water; and when placed in position where they are to be burned if it should rain, the Briquettes shed the rain and are in condition to light at any time, and burn as freely as if not rained on. They should not be exposed to hot sun.

Price $12 a ton f. o. b. Los Angeles. Present freight rate same as coal. We hope to have a lower rate based on rate for fertilizers made, and are working for same.

Griffiths, Munson Briquette Co.



SAFE AND SURE METHOD OF PREVENTING FROST

USE DISTILLATE

**NO SMUT
SIMPLE AND
EFFECTIVE**

Note the following extracts written by prominent fruit growers:

"If growers would generally place pots in their ranches, 25 pots fired per acre, in any frost we have had, would thoroughly protect the trees and fruit. I am sure many more will put in the oil pots next winter."—D. B. Bailey, Rialto, San Bernardino County.

"I am perfectly satisfied with the results. It furnishes sufficient heat to prevent frost damage during periods of cold weather and does not smut the fruit or trees. I find it even possible with these devices to carry the winter blossoms in my lemon grove through for summer crop."—N. W. Moodey, Glen Ellen Orange and Lemon Grove, Centerville, Fresno County.

"During the recent frosts the oil pots saved our crop except a few on the outside of the ten acres of Valencias."—W. R. Wood, Exeter, Tulare County.

"I found that, although the temperature fell to 20 degrees outside the protected area on January 16th, and again on February 14th, 40 pots to the acre gave me all the heat I needed for protection. I estimate that the crop saved on the Camilla orchard this season is worth $20,000. The fruit is heal'hy, wtih fine flavor, weight and color."—N. G. Simms, Camilla Orange Grove, Lindsay, Tulare County.

For Patented Distillate Burning Orchard Heaters Address

THE FROST PREVENTION CO.

Cor. Mariposa and I Sts. Fresno, Cal.

Some Good Things for Poultry

Armour's Beef Meal, made from Cooked Beef Hearts and Livers.

Seems Almost Too Good for Poultry

Only one place in the world where they accumulate so many hearts and livers that they use them for making beef meal for poultry.

At this place, the largest packing house in the world, they slaughter thousands of cattle, sheep and hogs and this is how they accumulate so many hearts and livers.

These hearts and livers are baked to a crisp; then they are ground into a fine meal.

The quantity is limited and a carload a month is all that can be had of this and we will use the most of it in preparing Coulson's Egg Food and Coulson's Chick Food.

We have a carload, 20 tons, 400 sacks, which will arrive in a few days and we can spare about 75 sacks of this meal. We will sell it in small amounts at 4 cents a pound. 100 lb bags for $3.50.

You can imagine how the little chicks will go for it! And for the old hens mix it in with the other feed and how they will cackle and lay!

Armour & Co. guarantee this meal to average more than 65 per cent protein. One pound equals four pounds of raw meat. That makes it as cheap as horse meat at less than one cent a pound. Being thoroughly dried, it will keep without spoiling and has no disagreeable odor.

And Armour & Co. guarantee that it contains nothing whatever injurious to poultry. A sample free for the asking. We hunt the world over for good things for poultry. Send for free sample.

Armour's Pure Blood Meal

Everybody Knows That Blood Contains All the Elements Necessary for Flesh and Egg Production It is a Valuable Aid to the Growth of Anything of the Animal Nature.

Hence it is not strange that blood that is immediately cooked or dried and submitted to a process that makes it odorless, should be valuable to use in poultry food. There is a vast difference in blood meal. Most of the blood meal on the market is not fit for anything except for fertilizer.

We get blood meal from Armour Packing Company in the East in order to get the very best. A carload is on the way now. This is one of the articles we use in preparing Coulson's Poultry Food. If you wish some of this good blood meal, we will be pleased to supply you. Price, small quantities, 5c a pound; 100 lb bag, $4.25. This blood meal contains over 80 per cent protein, one pound being equal to about five pounds of raw meat.

Beef Scraps===Choice beef scraps, fine ground, ready for use

The ordinary cracklings, or scraps, sold on the Pacific Coast are mostly pork scraps and contain too much fat to be fed very exclusively to laying fowls. There is another kind of so-called beef scraps that are the refuse of the renderings of soap works, and which are sold as high protein beef scraps. In order to get good beef scraps that are fresh and of good material we have made arrangements with a firm situated at the largest slaughter house in Chicago and the largest stock yards in the world, to furnish us with choice fine ground beef scraps in car load lots. A car load is on the way now and is expected to arrive now any day. One pound of this beef scrap is worth more than 2 pounds of raw meat, hence it is much cheaper than horse meat. We will sell these ground beef scraps at $3.25 per 100 pound bag and a little cheaper in ton lots. Send for free sample.

COULSON'S EGG FOOD

COULSON'S EGG FOOD is the best of all, as it contains everything complete to enable the hens to lay eggs in abundance.

When you feed Coulson's Egg Food you do not have to buy any of the other things, because everything is already mixed in this food. Beef meal, blood meal, fresh ground bone meal, charred bone charcoal, flax seed meal, willow charcoal, ground sifted oats, middlings, pea meal and other meals, and all things needed to make the richest and best egg producing food. We buy all these things in wholesale quantities at the very lowest cash prices. It is then thoroughly mixed by machinery in the right proportions by those who who know how and you have only one profit to pay. The poultryman that buys an article separately has to pay a profit on every single article he buys and conseqeuntly it costs him more money to mix a ration with only one or two articles, than it would to buy Coulson's Egg Food with everything complete.

Besides, the man who buys in small quantities has to take what he can find at the local stores and pay a big price for inferior articles, while we go thousands of miles in order to get the right kind of material. We do not use fertilizer stocks. Any poultryman is at liberty at any time to inspect the material we use in manufacturing Coulson's Poultry Foods. We are always pleased to show any parties through our factory as we are proud of the fact that we have the very best food articles obtainable.

Coulson's Egg Feed

Why You Should Feed It

It is a wholesome and safe food, contains nothing injurious. A correctly balanced ration, a scientific feed prepared by practical people who know how.

IT IS NOT AN EXPERIMENT. It is successfully used by hundreds of the most successful poultrymen and recommended highly. Fed as a warm mash either morning, noon or evening. SAVES BOTHER IN MIXING; YOUR TIME IS WORTH MONEY. Produces excellent results by natural methods. Price reasonable—CHEAPEST FOOD ON THE MARKET as it gives the best results.

GOES TWICE AS FAR as ordinary feed. INCREASES EGG PRODUCTION, furnishes bone, muscle, feathers and meat and helps fowls to grow. Pullets begin laying earlier. Shortens molting period. You can have eggs in winter when eggs are profitable. It is just the feed that all poultrymen are looking for—a feed that makes hens lay eggs nearly every day. ONE HUNDRED AND SEVENTY-FIVE EGGS PER YEAR PER HEN by feeding the hens Coulson's Balancel Ration Egg Food. Are you feeding your hens Coulson's Egg Food? If you are not, then you are making a great mistake. Coulson's prepared food for laying hens is just what your hens need and they must have it, if you expect them to lay many eggs at this time of the year. There is in Coulson's egg food everything complete to help the hen grow the eggs.

Mr. D. H. Ward at Cotati says: "I have fed Coulson Egg Food for over a year and I am well satisfiedwith it. I am now getting 90 dozen eggs a week from 500 hens. My hens laid well all last winter on Coulson's Egg Food and will continue to feed it this winter.

Others try to economize by buying cheaper feed, but they make a great mistake.

Price of Coulson's Egg Food at factory. We do not pay freight. One sack, $1.65; 5 sack lots, $7.75; ½ ton, 11 sacks, $16.50; 1 ton, 22 sacks, $33.00. We place on cars free of charge. Sample and catalogue of Poultry Supplies free.

A. R. COULSON CO.

Manufacturers of Poultry Remedies, Condition Powders, Poultry Foods, Roup Cure, Lice Killer, Etc, Wholesale and Retail.

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ORCHARD OR FIELD
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WATER WORKS,
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IRRIGATION PLANTS

CHEAPER, STRONGER AND MORE DURABLE

than riveted iron or steel pipe. Requires no expert to lay and can easily be taken up and relaid, as it is absolutely indestructible. ALL PIPE SOLD UNDER AN ABSOLUTE GUARANTEE
We contract for complete irrigation systems. Illustrated catalogue sent on application.

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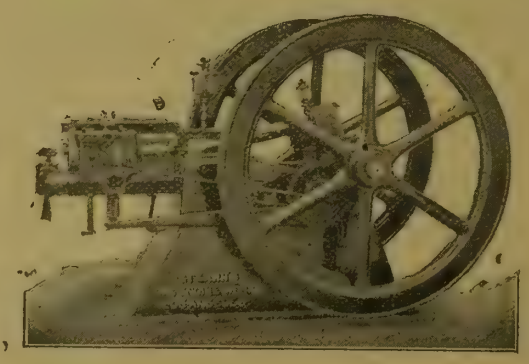

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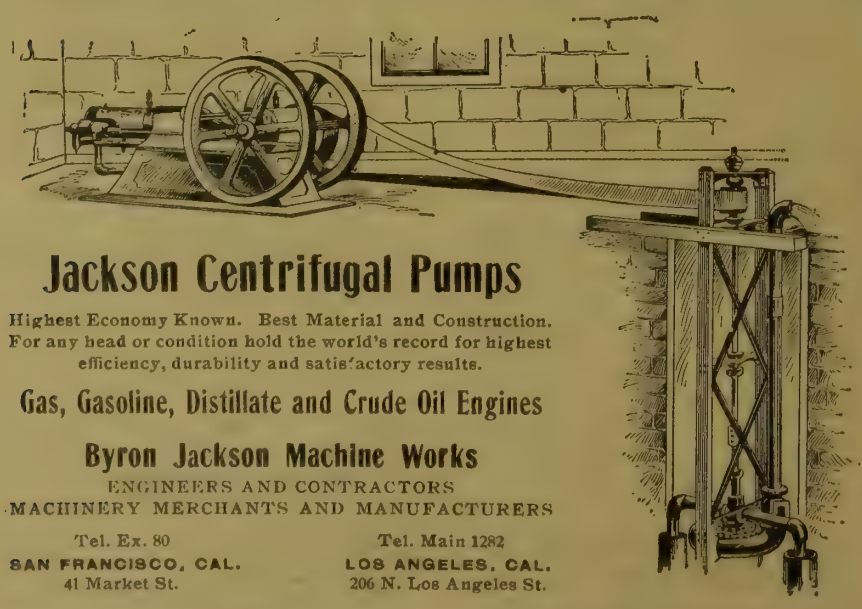

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Highest Economy Known. Best Material and Construction. For any head or condition hold the world's record for highest efficiency, durability and satisfactory results.

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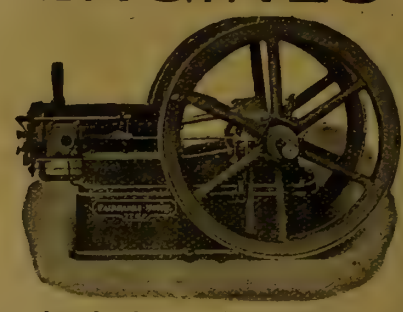

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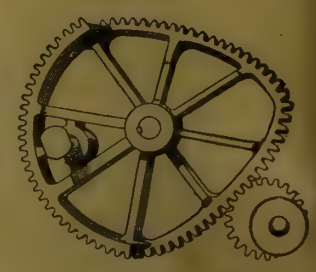
VALVES
CYLINDERS
CUP-LEATHERS
WIND-MILL PUMPS
DOUBLE ACTING PUMPS



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Delivers Continuous Stream with absolutely no water hammer

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The only ones suitable for DRY, HOT CLIMATES

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LOS ANGELES SAN FRANCISCO

NOVEMBER 6, 1903

Hop Picking Scenes in Sonoma County.

The growth of the hop production of California is best told by a comparison of the figures. In 1888 there were 34,605 bales or 6,400,925 pounds harvested. In 1902 there were 53,500 bales or 10,165,000 pounds harvested. The total production of the world averages from a million to a million and one-quarter bales. California averages eleven million pounds.

Frost Checkmated==Fruits Protected

Griffiths, Munson Briquette Co.

Phones—Main 806, Home 806. Office, 128 Hellman Block. Works, Atlantic St. and Santa Fe Tracks. LOS ANGELES, CALIFORNIA.

Orchard Briquettes are in size 12 inches by 6 inches and 5 inches in thickness, weighing about 9 pounds each. They are to be burned in the orchard on the ground, requiring nothing to contain them, and being entirely consumed unless intentionally extinguished. Two or three are inclined towards each other, forming a pyramid, leaving free vent beneath for air passage, at which point the torch should be applied. No kindling is required. It will burn long enough to meet the requirements of the usual cold night. In orchards where some degree of protection is afforded by wind breaks or trees being large and close together, two Briquettes are used to the fire, twenty-five fires to the acre, one ton being sufficiect to protect four acres for one night. In open and more exposed groves we suggest using three Briquettes to the fire or one ton to three acres for one night's fires. It is best to use the extra Briquette on the first two rows of fire on the exposed side of the grove.

Briquettes are impervious to water; and when placed in position where they are to be burned, if it should rain, the Briquettes shed the rain, and are in condition to light at any time, and burn as freely as if not rained on. They should not be exposed to hot sun.

Price $12 a ton f. o. b. Los Angeles. Present freight rate same as coal. We hope to have a lower rate based on rate for fertilizers made, and are working for same.

One man can light and take care of ten acres of fires; taking into consideration that those using coal have to employ several men to look after like number of acres, the cheapness of firing is greatly in our favor.

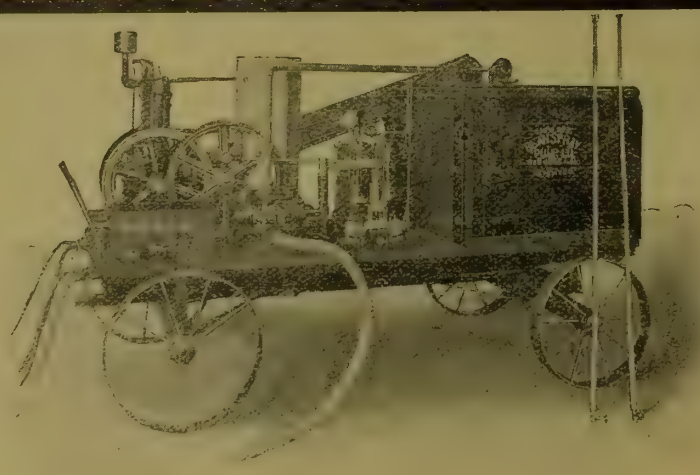
Our Briquettes will not smut or blacken fruit or trees, which can not be said of Crude Oil or Distillate. Smoke from either will smut and blacken fruit and trees, and has been known to injure the flavor of lemons where Oil and Distillate have been used. Our Briquettes are mixed and cooked in open kettles twenty to thirty feet long, so all loose soot is driven off.

We believe that if our fuel is fairly used for one season it will prove so satisfactory that we are assured of continuous patronage. We can furnish testimonials as to its merits from the largest citrus fruit growers in Southern California who have used a similar fuel the past season and have largely increased their order for this season.

We trust we may receive your order for such quantity of our Briquettes as you may require for this season. If season should be so mild as not to require fires, our Briquettes will carry over several seasons without deteriorating. They can be thrown at root of tree out of the way of plow, and remain until needed.

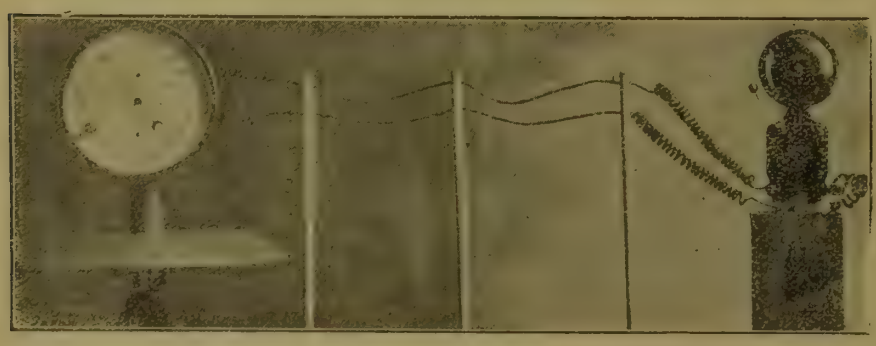
In case the temperature moderates after a fire has been started, throwing a little dirt upon the Briquettes will put the fire out and save the Briquette for future combustion. Soliciting your orders for this fuel, we are

Yours truly, GRIFFITH, MUNSON BRIQUETTE CO., M. L. Wicks, Pres.



We Know that we are supplying by far the best spraying machines made, whether in hand pump or power outfits.
If You want the best you won't buy until you have written us for prices and asked where you can see samples.

BEAN SPRAY PUMP CO., Santa Clara St., San Jose



THIS CUT ILLUSTRATES THE

Bolton Electric Thermometer

It will ring you up automatically when the temperature in your orchard approaches the freezing point. Indispensable to every fruit grower. Address

The Frost Prevention Co. 1056 I St., Fresno, Cal.

Tree Spray Distillate

Not an emulsion of oil and caustic soda, but a special distillation of oil from which all asphalt and other deleterious substances have been removed. Mix with water and apply with spraying apparatus that gives a thorough and constant agitation to the liquid—when properly done we guarantee that it will destroy all insect life attacking either citrus or deciduous fruit trees and not

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Cheapest and Best Insecticide. We also manufacture **Gas Engine and Stove Distillate, Lubricating Oils, Etc.** We solicit your correspondence and orders.

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Used with Bolster Springs on your farm wagon will give you all the advantages of a city dray. Front wheels turn under. Bed is 4 feet 6 inches wide by 12 or 14 feet long. Easy to load. Great strength with little weight obtained by truss rod construction. Used with or without sideboards. Well built and neatly painted.

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 19 LOS ANGELES, CAL., FRIDAY, NOVEMBER 6, 1903 Subscription $1 a Year

...Protection From Frost...

A Valuable Paper Read by Dr. E. W. Reid of Ioamosa at the Seaside Institute Last Summer.

A paper of this character will be valuable chiefly as it presents facts derived from the experience of those who have been engaged in fighting frost. With the purpose in view of gaining such information I solicited answers from representative growers in different localities of Southern California, to questions bearing on this subject. My thanks are tendered those gentlemen for the courtesy with which they have responded. I undertake briefly to summarize the answers to a few of the questions. While there was some diversity of opinion expressed in answer to the question: "How low may the temperature go without material injury to ripened oranges, to matured lemons, and to young lemons?" the figures ranging from 24 deg. to 30 deg., there was a substantial concurrence in the opinion that 26 deg. was the limit for oranges, and two or three degrees higher for lemons, more of course depending on the length of time the low temperature lasts than on the degree reached. At the same time, some made statements which would indicate that a temperature considerably lower may be successfully withstood. One gentleman, who is not only a grower but also manager of a packing house, and, consequently, had good opportunity for observation, writes: "Oranges all over my district went through six or seven hours with the mercury at 22 deg., and, while the quality was not improved, the fruit all went to market and was received without complaint by the buyers. Only an occasional exposed specimen showed broken cells, none cut dry. Brown lemons passed through the same ordeal and in some orchards the loss was total. On my place, where we kept fires going all the latter half the night the loss would not exceed 5 to 10 per cent."

We doubtless shall remember the published statement of Mr. Teague, in the season of 1902, where the mercury went as low as 20 deg., and remained for several hours at 26 deg. While it is not safe to draw too hasty a conclusion from the facts and allow the temperature to go low without an effort to counteract it, there is to me a grain of comfort in the thought that our fruit may withstand a lower temperature than has ordinarily been believed.

Coal baskets and oil pots were the principal weapons employed, and the coal baskets were used by the larger numbers. The number per acre varied from 45 oil pots to 100 coal baskets, and the result varied from simply holding the temperature at the point reached when the fires were lighted, to affecting a rise of 6 deg. Wet straw and manure were also used in some instances for creating a smudge, about sunrise. One gentleman used a bricquette, made of asphaltum, oil and sawdust. Those districts in which the oil pots were used exclusively report the deposit of a certain amount of smut. The neighbors in some instances raise objections to this, and I notice from the reports that the trade objects. One of the Exchange agents says: "Such fruit has anything but an attractive appearance, and the worst feature about it is that the soot will not wash off. It is of an oily nature and appears to have penetrated the skin." Mr. Hofman, who is an ardent advocate of oil pots, while admitting that there is a danger from smut if the pots are used frequently, insists, to use his own language, that "The damage done by smut is a mere nothing (even were 75 per cent of the fruit blackened) as compared to damage done by cold, for in the latter case you lose your fruit, blossom, wood and hopes." And Mr. Bailey of Rialto, also a friend of the oil pot, suggested that the effect of the smut upon the rind of the fruit may be preservative, by destroying or preventing the formation of any possible fungus, and in support of his position adduces the fact that from his own orchard, in which fire pots had been burned, he took one dozen Mediterranean Sweets which showed in a slight degree the presence of smut, and from the orchard of a neighbor who had not fired he took one dozen Mediterranean Sweets, and kept all the fruit under the same conditions; at the end of two weeks the fruit from the ranch which had not been fired was soft, spongy and rotting; while the fruit from his own orchard was firm, and showed no signs of decay. I think it probable that the better condition of fruit from

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California Citrus Interests

By President A. H. Naftzger

Mr. A. H. Naftzger, president of the Southern California Fruit Agency, who has just returned from an extended trip in the East in the interest of the large concern over which he presides, has been prevailed upon to give the Cultivator his views on two or three points of special interest to citrus growers of this State. The topics he discusses briefly, but cogently, as will be seen from the reading of the article are the prospects of profitable marketing of California oranges and lemons; competition, in which Florida is a vital factor, to be considered, and the effect Cuban reciprocity will have upon the citrus fruit industry of this country. The Cultivator readers will be pleased to read the suggestions offered by Mr. Naftzger, for they concisely present the citrus fruit industry of California as it appears at the present time.

Azro Huffman Naftzger.

"You ask me of the prospects for profitable marketing of California oranges and lemons. It cannot be expected that the rapidly increasing product of our orchards can be marketed to show the same profit to the growers that they realized when the crop was limited, and the competition less, but I see nothing in the situation to discourage our orchardists. Our navels and Valencias especially have created a demand for themselves. The fine appearance, delicious flavor, and good carrying qualities make the navel, which is our leading variety, very much sought after. No other orange in the world compares with it in the qualities named. It is true that during the past season, results have not been entirely satisfactory to the producers, but this was due chiefly to the character of the fruit itself. No one can deny that our fruit was lacking to very considerable degree in the fineness of texture and flavor which it usually possesses. Moreover good carrying qualities were wanting. In other words we suffered frightfully from decay in transit. It is true that the increasing quantity of other classes of fruits produced in nearly every section of the country is more or less in the way of successful marketing of oranges, but the demand for fruit increases accordingly. A few years ago, fine fruits were a luxury. Now they are a necessity in every household, and happily for everybody concerned, the majority of the people of the United States are able to enjoy this luxury. Of these various fruits, apples more than any other, displace oranges. This year, the apple crop is excellent in quality, and fairly large in quantity. This, as everybody knows, is the fruit of the common people.

* * *

Competition.—Our chief competition in citrus fruits is from Florida, which has been very little in our way since the great freeze of 1894, but many of the old orchards are partially recovered and a vast acreage of new ones have been produced in the more southerly portions of the peninsula. It is variously estimated that Florida will ship this season from 1,250,000 to 2,000,000 of boxes of good fruit. This is a wide range in the estimate, but it is imposible to estimate a Florida crop with anything like the accuracy of a Cali-

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CALIFORNIA CULTIVATOR

ESTABLISHED 1860
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

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solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Nov. 6, 1903

Circulation this issue 9,200

OF GENERAL INTEREST.

Emma Booth Tucker.—The country has lost a noble woman, and suffering humanity a devoted friend, in the death of this great Salvation Army leader. No woman of the age was more universally known, nor more profoundly loved than Mrs. Booth-Tucker. She had a peculiar faculty of grasping conditions, and a directness and versatility in planning remedial agencies for distressing affairs, in the lives of those whose interests she served, which was possessed by few men or women of this day. From one end of the civilized world to the other, where this christian woman was known and loved, the poor, the down hearted, the needy will be filled with sorrow as they contemplate the startling truth that their loved and trusted colaborer and friend is on earth no more. It is doubtful if any man or woman's death in the last year has created such universal sorrow as that of Emma Booth-Tucker. Why?

Because she could fathom the sorrows of the human heart and pour over the wounded soul the healing oil of sympatny and love. Like Martin Luther, she was a reformer who began her work of saving souls by loving the soul she sought to save. Love was her all-powerful sword, with which she cut away the outposts of error and through which she held the christianized world captive at her feet the past ten years.

Yes, Emma Booth-Tucker is dead—and with people who believe in prayer there is one great sob.

* * *

Gigantic Alliances.—The initial proceedings of what will develop into a gigantic combination of opposers of "unions" have taken place in Chicago, in which the Citizens' Aliance and Employers' Associations have united, with non-union laborers to oppose the unjust demands of unionism. The key-note of the organization was sounded in the following declaration of principles:

"To aid all the people of America in resisting encroachments on their constitutional rights and assist local, state and national manufacturers and employers in their efforts to establish and maintain industrial peace, and to create and direct a public sentiment in opposition to all forms of violence, coercion and intimidation."

The purpose of this vast alliance is to combine anti-unionists of every department of labor in one solid organization all over the United States.

Public sentiment has become so embittered at the demands of walking delegates and their followers. It will not longer brook the tyranny of this class of citizens, nor silently submit to its dictation. The result will be a struggle of historic proportions, but we trust at its conclusion both capitalists, non-union and union adherents will reach an understanding, in which all interested parties shall be satisfied. The right to labor, urestricted, to be guaranteed to every citizen, and the dignity of labor fully acknowledged and respected by all men everywhere.

* * *

Thanksgiving.—The President of the United States has issued the annual proclamation, to the people, inviting observance of the time honored day, as best comports with conditions which surround the public and the private individual.

Thursday, November 26, is the day set apart for national Thanksgiving, and a respectful observance of such religious rites as well befit a Christian nation. The language in which the proclamation is worded implies an earnest desire, on the part of our chief magistrate, that the country shall fully appreciate the great blessings which surround it. The bountiful harvests; our escape from pestilence; the marvelous developments in our industrial avenues and commercial fields; continued peace at home and abroad are all conditions which call for thanksgiving and praise by the recipients of these favors.

With hearts 'oreflowing with gratitude to the divine source of all our good, let us, as a nation, and let California, as a State, "give thanks and be exceeding glad" for many have been our mercies and great the achievments secured during the year now passing into history.

* * *

Strikes Elsewhere.—Labor troubles do not seem to be confined to the United States. They are quite as frequent, and collossal in magnitude, in other nations as in ours. Indeed, they do not appear to be confined to race or country, but break out wherever conditions call for readjustment of wages, or where labor is led to think it has a just cause for protest.

This week the scene of turmoil has been shifted to Spain, where the most general aggressive strike on record is in progress as we go to press. The center of the storm is the city of Bilboa, where 40,000 strikers and their sympathizers are making things "hot" for the authorities who, aided by police, and detachments of the army, are waging an almost too severe warfare against the dissatisfied Spanish strikers. It should be borne in mind that the Spanish workingman has a far different cause of action from the American laborer. The former is starved, the latter is fed to satiety, lives in a comfortable home, enjoys the blessings of church and school and has nothing to complain of but the interruption of the walking agitator—who is really his most serious cause for apprehension.

* * *

Benefits of Co-operation.—The Fresno Republican of this week makes a vigorous appeal to the raisin growers of that district to continue the Raisin Growers' Association, which by contract, soon expires. The usefulness of the association, it is urged, has been more than apparent from the benefit it has been to its members, in the marketing of the fruit and in the prices received by the raisin growers. The position taken by the Republican is uncontrovertable on the general proposition of the advantages derived from co-operation. The Southern California Fruit Exchange is an example of what may be accomplished by intelligent co-operation of people engaged in a particular industry. The raisin growers of the Fresno district will do well to hold steadfastly to the principle of co-operation, for honestly and efficiently conducted, there is no reason why a business run under that regime shall not succeed.

* * *

Independence of Panama.—Revolution has broken out in Panama, the result of the long-drawn out conflict of opinion regarding the disposition of the Isthmian Canal question and other local questions. The United States has ordered a squadron of war ships to the coast to protect American interests. In this connection it may be said there are indications of a general war in the Central American colonies north of Colombia.

Nicaragua and Honduras have for some weeks been on the verge of an outbreak, and the Washington authorities are expecting open hostilities to occur at any time.

* * *

Refrigerator Cars.—A project is under way by the leading railway magnates of the country to organize a car company with a capital stock of at least $5,000,000, which shall buy all the refrigerator cars and cars of special types, and operate them in the interest of the railroads.

A brief outline of the plan is given by Mr. Midgley in a circular distributed among leading railway officials. His solution involves the organization of a company which shall be owned or controlled by the railroads, and which shall operate special type cars at a per diem charge, which shall bring a fair return on the money invested. It is the purpose to offer all special type car companies what is considered a good price for their equipment, and if the offers are refused the railway equipment company will build its own cars.

In the meantime, Mr. Midgley recommends that the railroads cease paying for the use of private cars when hauling them empty, and reduce the compensation for their use, so that cars now receiving one cent a mile shall receive three-quarters of a cent, and those receiving three-quarters shall receive 6 mills.

This is the opening wedge to the parting of the ways between the railroads and the refrigerator car companies owned by Armour & Co. It is high time the break should come, for between the regular freight rates charged by the railroads, and the charges for refrigerator cars, the latter having long been considered extortionate, the fruit grower and the stock shipper has indeed been "between the devil and the deep sea."

* * *

H. E. Cook, president of the New York Dairy Association, in one of his public addresses, suggests to farmers who attend institutes, to have a memorandum book and take notes of points made by the lecturer. He also insists that every farmer should be a constant reader of a good agricultural paper. In no other way can he keep abreast of the times.

* * *

Wall Street Gamblers.—The recent slump of stocks in the Wall street market has caused a great many people to inquire. What is the matter with the country? The Cultivator's answer is, there is nothing the matter with the country—at large. The crops have been good, returning immense revenues, no calamities of any magnitude have visited us; we are at peace with all the world and legitimate industry has enjoyed unprecedented prosperity. What then is the matter, and where is the trouble that so many are insisting exists? Whatever trouble there is in our industrial conditions, is chiefly due to the overcapitalization of stocks, of ship-building, steel and other trusts. It has come out that about four-fifths of the stock of the ship building trust is water, and the country has been flooded with over five billions of watered stocks; can it be wondered at if the confiding public, becoming informed of the true condition of affairs, refuse to invest in such property? How could such stock fail to slump from the forced and artificial price fixed for it by the get-rich-quick-promoters. Careful business men have come to know that they have no more chance of making a profit on their investments in trust stocks on Wall Street than of winning money at faro or roulette. The whole stock market schemes as conducted at present are gambling devices, and morally are no better than the schemes of the professional gambler with marked cards and loaded dice. The people in general would need to have no concern over the transactions of Wall Street were it not that these stock gamblers often by their reckless plungers disturb legitimate business. The masses of the people do not yet understand that the winning or losing of the stock speculators need not affect the general business of the country. Not understanding the true inwardness of the situation the masses become alarmed when a plunger goes to the wall. Hence a panicky condition is created depositors in banks from Maine to California withdraw their funds; a money stringency is created; the demand for goods is diminished; forced sales are made of goods at reduced prices, and workmen are discharged to reduce expenses. These are the evils resulting from the stock watering, gambling transactions on Wall Street. But there need be no such results, if the masses of the American people refuse to get excited when a Wall Street gambler gets caught in the trap he has set for the unsophisticated.

* * *

The particular form of human depravity that stands out most prominent today is the cruelty to domestic animals, and the animals most cruelly treated are the horse and dog.

..General Agriculture..

WHAT AILED THE DEACON'S PEACH TREES.

"Hank," said Deacon Pepperton one noon, as he seated himself on the Peters' porch, and fanned himself with his hat, "I'm gettin' discouraged 'bout that peach orchard o' mine."

"What ails it?" asked Hank Peters, lazily, from the hammock where he was taking his noon-time rest.

"Some o' the trees look sickly, an' some are dyin'. One or two are deader'n a door-nail already. It beats all what luck I have. Why, look at those peach trees o' yours—ev'ry tree as healthy an' chock full o' life as a heifer! I'd like to know what hinders my havin' trees as good as yours."

"Borers," grunted Hank, sleepily.

"Eh?"

"White grubs that bore into your trees."

"I haven't seen none," protested the Deacon.

"Have you hunted for 'em?"

"No-o."

"Why don't you?"

"Well—er—I haven't got time for one thing. Besides I don't think there are any borers in my trees—beggin' your pardon."

"Let's go an' look," said Hank, suddenly becoming wide-awake.

"But it's time we went to work," protested the Deacon, looking at his watch.

Hank, however, had rolled out of the hammock, found his hat, and was ready to start. "It'll take only a few minutes," said he, as he led the way to the Deacon's orchard.

Arriving there, Hank took out his jack-knife, opened the big blade and knelt beside the trunk of the nearest peach tree. First he scraped the soil away from around the trunk to a depth of three or four inches.

The Deacon with a dubious yet curious smile, watched the operation. "I don't see no borers," he remarked drily.

"Course you don't. They're inside, out o'sight—'twixt the bark an' wood. See that bunch o' gum an' those bits o' sawdust? Now you watch me a minute!"

With the knife he scraped off the gum, and proceeded to explore into the bark beneath with the knife-point. Stooping closer, the Deacon watched. A few careful stabs and cuts here and there soon revealed a narrow, downward channel under the bark. Following this down with the knife, Hank laid bare a fat white borer about an inch in length.

The Deacon whistled softly. Hank coolly killed the borer, then explored the upper part of the channel—finding and killing another borer hidden in a short cross-channel. The Deacon whistled again.

"Now," said Mr. Peters, innocently, let's look at your older trees. Maybe there ain't no borers in 'em."

This time the Deacon led the way. He was getting interested.

Again Hank knelt, and scraped away the dirt. Inside of five minutes he had found and killed fourteen borers in one tree-trunk. "Another year would have settled that tree," he remarked, casually, as he rose to his feet, and wiped the knife-blade on his overalls.

"Seems to me, though," ventured the Deacon, " that your knife cuts have hurt the tree 'bout as much as the borers could."

Mr. Peters hesitated. The remark provoked him. Then, remembering the Deacon's peculiarities, his face relaxed into a patient smile.

"See here," said he, good naturedly, "I didn't cut the bark 'cept where the borers had been, did I?"

"No-o," answered the Deacon, in a dubious tone.

"Then the bark-injury isn't much worse than it was before. And the tree is better off, because, as the borers are now dead, bark-injury has stopped. If I hadn't killed the grubs, they'd have gone on eatin' the inner bark till the tree was completely girdled, an' dead. Knife-cuts don't go on eatin', Deacon! They'll never be worse than they are now."

"Well, maybe you're right, Hank; but it looks like an awful job to grub-hunt a whole orchard o' trees."

"You'd prefer to have the trees die, would you?"

"Oh, not exactly that, but—"

"Well, Deacon, there ain't any easy or sure way of killing borers 'ceptin' to git down on your knees an' grub 'em out! The job ought to be done ev'ry year reg'lar. If you had attended to 'em ev'ry season you wouldn't have so many to dig out now, an' you trees would be a whole lot healthier."—Walter Andrews in Farm and Fireside.

This story carries its own moral.

SAN DIEGO BEE-KEEPERS.

The Julian Miner, in its issue of this week makes a strong appeal to the bee-keepers of San Diego county to organize for mutual protection and profit, and as the Miner says, to "keep up with the procession." The bee-keepers who organized last year derived great benefit from co-operation. "There was a much larger crop of honey in San Diego county last year than this and yet the price obtained then was 5.45 cents per pound, while this season 4.50 to 4.75 is the average price given by the commission merchant's association. Had the Julian bee-keepers association continued their organization and induced others to join they could undoubtedly have realized 6c for their honey. Commission merchants can't handle small quantities of honey as profitably as in car-load lots and hence will not pay the individual as much as can be demanded by an association. If any one can show a good reason for not organizing and can enumerate more benefits to be derived by each producer selling his honey separately, then it would be of interest to the public to have those facts published.

The Wholesalers' cut in the price of granulated sugar has caused general demoralization to the trade. There is no longer any attempt among wholesale grocers to maintain prices and grocers are particularly incensed at the sugar trust as the cause of the demoralization. As a result of the demoralized state of trade the American Sugar Refining Company, in Jersey City, and the National Sugar Refining Company, in Yonkers, have closed their plants temporarily.

State Mineralogist Lewis E. Aubury reports the value of the mineral products of California for 1902 at $35,069,105, an increase over the previous year of $713,124. Gold of course, continues to head the list, there being $16,910,320 worth of the precious metal mined during the year, Nevada county still leading in its production.—Vacaville Reporter.

It is predicted that Tulare county will, this year, produce 1200 carloads of citrus fruits as against 900 last year.

WALNUT PLANTING.

J. B. Neff, Esq.—Please pardon this intrusion, but I want some information on different varieties of walnuts that I am unable to get from the nurserymen and I have thought I could get this information from you, knowing that you are well informed in growing walnuts as well as fruits. We have frosts frequently in April in this locality, that kill the walnuts. I am told that there are some varieties of the soft shells that don't leaf out and bloom until in May, notably some of the French walnuts. Do you know of any soft shell walnuts which are good bearers, good commercial walnuts that are later in putting out in the spring than the Santa Barbara or Ford's improved? Which of these is the latest bloomer, and of usual seasons about what time do they bloom or leaf out? Would you advise the planting the grafted on the native black, or the English walnut root? At what age does the grafted walnut usually come into bearing? Is there much difference in the time of ripening of the late and early blooming kinds? These questions may seem flat to you, but an answer from you would be very much appreciated by the writer.—D. A. Kughen, Burbank.

I do not believe it would be safe to plant any variety of walnuts where there is much frost in April, particularly in case the thermometer goes below 30 degrees, as the walnut frost-kills very easily, and all that I am acquainted with begin to show leaves early in April, and usually in the latter part of March.

I have not seen any French walnuts that produce paying crops in the southern part of the state.

The latest blooming variety that I know is the "Placentia," but any variety can be retarded a few days by having the ground always well watered, so that they will hold their leaves well into the winter.

I have grafted trees on both the native black walnut and on soft shell roots. If the land is very sandy I prefer the native root, but a walnut should not be planted on very sandy land, except to fill out rows.

Grafted walnuts will begin to bear at once, but the nuts should all be pulled off until the fourth year after planting, so that the tree will grow faster.

Early and late blooming seedling trees in the same orchard will ripen at so nearly the same time that no difference can be noticed, but the very late bloom on any tree is almost sure to fall, as it does not seem to be properly fertilized; if not, the nuts will be very small.—J. B. N.

* * *

WATERING WALNUTS.

J. B. Neff.—It is said by some people that a walnut tree will die when the tap root gets into water. The water is from 16 to 20 feet below surface of ground here. In '98 it was 10 to 12 feet. Should the water rise again to 10 to 12 feet of surface will the walnuts die?—D. A. Kughen, Burbank.

If standing water does not come closer than 10 feet from the surface it will not do any damage, as the tap root of the walnut does not go as deep as is commonly supposed. The trees will not drown unless the water comes near the surface and stands for several weeks.

Have you whitewashed and prepared the old chicken coops so that they will be ready for use when needed? If not, you had better do it now, as you may be too busy to fix them when they are needed.

HYBRID ORANGES.

A Washington dispatch is authority for the statement that a deciduous orange tree has been produced—a variety which will grow farther north than oranges can now be made to grow. Of course such a hybrid would be welcomed, that is, if it shall produce as good a fruit as the orange grown in the usual way, but it should be remembered that innovations in fruit culture are as likely to occur as they are in the vegetable kingdom, and we may obtain even more advanced perfection in orange culture than has been reached.

Discussing the socalled "vital discovery" Albert Woods, of the Plant Growers' Bureau, says:

"It is in the second generation that the hybrid breaks up," and it is in this breaking up process, as we call it, that we will get a great variety from which to select. What we have now in this first hybrid is an orange which combines quite equally the traits of both parents, from the Florida orange it gets juicy and almost seedless interior, while from its Chinese parent it gets its reduced size and its tart flavor. The tree combines the characteristics of both, but from the hardy one it gets habits of being deciduous and its ability to resist frosts.

"Even if we never should get anything more than we now have in this hybrid, we would consider the acquisition of great value. This small orange, capable of growing in fifteen or twenty states where oranges cannot now grow, although inferior to the ordinary orange of commerce, would have commercial value for orange drinks, extracts, and other purposes. In taste, it combines the characteristics of the orange and the grape fruit, and resembles in some respects the lime."

Alexander G. McAdie, Section Director, reports the following condition of crops for the past week. The summary including the state at large.

Generally clear weather prevailed throughout the state during the week, with nearly normal temperature and fogs in the coast districts. Conditions were favorable for ripening late fruits and raisin making except along the coast, where curing was retarded by moisture. The second crop of raisins in the San Joaquin valley is curing rapidly and going into the packing houses; a third small crop is on the trays in some vineyards. Heavy shipments of raisins and table grapes continue and the wineries are in active operation. Prunes are dried and under cover; the yield is considerably below average. Apple picking and shipping are in progress. Nearly all deciduous fruits and grapes have yielded excellent crops in most sections. Oranges are ripening rapidly and picking will become general in the Oroville and Porterville districts during the present week; the first carload was shipped from Porterville October 29. Southern California oranges are reported in excellent condition, with indications of an unusually heavy crop. Olives in the San Joaquin valley are doing well and give promise of a fair yield. Walnut picking is nearly completed.

Grain, hay, hops, beans and sugar beets are practically all harvested and sheltered; the crops on the whole have been very satisfactory. Egyptian corn harvest and potato digging are progressing. A few farmers are plowing and seeding, but the work will not be general until rain has fallen.

LAND AND WATER.....

BY A. J. McCLATCHIE, PHOENIX, ARIZ.

TONTO DAM.

In accordance with recent orders by the Secretary of the Interior, contracts have been let for the construction of some of the works preliminary to the erection of the great Tonto Dam itself. This, the first dam to be constructed under the provision of the national irrigation act of 1902, will also undoubtedly be the largest and most expensive. The reservoir that it will create will impound approximately, 1,500,000 acre-feet of water, or enough to cover a million and a half acres with water one foot deep. The average amount required annually for crop production in the region under it being about five acre-feet per acre, if the reservoir could be filled each season the water from it would thus be sufficient to irrigate nearly 300,000 acres. But past experience shows that only during exceptionally rainy seasons will its full capacity be tested, and that during average years less than a third of the above amount of land, in addition to that already being irrigated, can be supplied with water from the reservior.

* * *

According to computations made by the writer (based on the river flow during the past fourteen years) and published in Bulletin No. 43 of the Arizona station, the amount of land that it will be safe to attempt to irrigate from the regular flow of the Salt river, and with water stored in Tonto reservoir during flood times, lies somewhere between 160,000 and 200,000 acres. But this would be about double the area now properly irrigated, and the crop production of the region would undoubtedly be more than doubled. Besides this increase in the production of staple crops, the possibilities of intensified and diversified cultivation would be so much greater that more valuable crops could be grown with the regulated water supply than is practicable with the present fluctuating supply. The ability of the region to support population will therefore undoubtedly be increased two or three fold.

* * *

But one of the greatest benefits to come from the creation of the Tonto reservoir will be the resulting stability to agriculture and horticulture, and the consequent stability of land values. The fluctuating water supply has caused an element of uncertainty that has discouraged the making of permanent improvements and the study of improved methods of farming. With the completion of the Tonto dam ought to begin an era of more intelligent farming here. The thought and time can be given to reading agricultural books and papers that is now spent in speculating on the water supply.

All of this will mean increased trade with California, whence comes a large part of all that is consumed here. There will always be many agricultural and horticultural products that can be more advantageously purchased from California than grown here, and a great variety of products of all kinds will continue to come from there. Consequently the prosperity of Arizona is closely linked with the welfare of California.

* * *

The cost of the Tonto dam, approximately $3,000,000, will be practically a loan by the government without interest, and will be paid in ten annual installments by the farmers who use water from the reservoir. As there is already more land in private ownership under the reservoir than can be properly supplied with water from it and from the river flow, no government land is to be irrigated. There will be therefore a resulting increase, not in the area of irrigated land, but in the area of land properly irrigated. To be sure much of the area has been irrigated but once, in order to secure title to it under the Desert Land Act.

While this increase in the water supply of the region about Phoenix will make homes for a large additional population, the danger is that the resulting influx of settlers will be out of proportion to the augmentation of the water supply. Although irrigating water has been scarce during the past four or five years, and although the completion of the Tonto reservoir is necessarily several years distant, already settlers are coming in singly and in colonies. Unfortunately, some real estate men and others who have land for sale, are not over scrupulous in the matter, and are apt to induce settlers to come here too soon or in too great numbers. This is liable to result in the temptation to deprive the older settlers of water to which they are entitled by right of prior appropriation, just as the construction of the great Arizona canal through the upper part of the northern side of the Salt river valley resulted in a larger number of farmers than ever before receiving too little irrigating water. As long as land is in excess of the water to irrigate it, and there is no adequate supervision of the distribution of the water supply, so long will all cultivators be constantly in more or less danger of a curtailment of their supply of irrigating water. But it is to be hoped and is confidently expected that the government will so administer the reservoir matter that there will be no resulting avoidable hardships to any. In this will lie one of the greatest advantages of the construction of irrigating works by the government over construction by private capitalists.

* * *

MEASUREMENT OF WATER.

The use of the term "acre-foot" in speaking of the capacity of the Tonto reservoir suggests a discussion of the significance and use of the term. For it is such a convenient and so accurate a one that it is to be regretted that it is not generally adopted by farmers, as it has been by irrigation engineers and most other writers upon irrigation matters. The early and long-time use of the term "miner's inch" makes it difficult to introduce new terms, no matter how much preferable they may be. Though it is quite generally admitted that it is difficult to comply accurately with the requirements in measuring water with he miner's inch as a unit, its use continues to be general. But there being a lack of uniformity in the conditions under which a miner's inch is to be measured, the amount of water expressed by the term is plainly not a definite quantity.

The second-foot and the acre-foot are terms that express definite quantities wherever they are used, and are understood the world over. A second-foot being the flow of a cubic foot of water during each second of time, a second-foot flow for any definite period equals a definite number of cubic feet, and it thus becomes easy to compute just how much water will flow upon a given piece of land in a given time. The number of square feet in an acre of land being very nearly the same as the number of seconds in twelve hours, a flow of a second-foot during that time covers an acre with water to the depth of about one foot, or approximately one inch deep each hour.

The acre-foot and the acre-inch are therefore directly comparable with the rainfall. An acre-foot of water applied to an acre is equivalent to a rainfall of twelve inches, and an acre-inch applied to an acre is equivalent to an inch rainfall. But between the miner's inch and the rainfall unit there is no such relationship. If California wishes to translate second-feet into miner's inches, they have only to remember that in their state the latter equals approximately one-fiftieth of the former. In Arizona, by common consent forty miner's inches are equivalent to one second-foot. But the use of the word "inch" in such a different sense than it is otherwise used is misleading and confusing. The general adoption of the second-foot, the acre-foot, and the acre-inch as units of measurement would be a long step in the direction of accuracy and simplicity in the measurement of water and of the discussion of the amounts of water needed by and applied to various crops.

* * *

EUCALYPTUS FOR ELSINORE.

H. D., who writes from Ventura expressing disappointment at what has appeared upon Eucalypts in a Los Angeles horticultural journal he is taking, and asks for information as to what variety to plant upon damp and upon dry soil at Elsinore, is referred to the articles upon Eucalypts for dry hot regions that have appeared in recent issues of the Cultivator. Of the species discussed in those articles the ones best suited for the low lands about the lake will probably be E. rudis, E. rostrata, and E. crebra, and for the higher situations, E. polyanthema, E. tereticornis, and E. corynocalyx. Some of the readers of the Cultivator who live in the vicinity of Elsinore could send specimens from each species growing in the region, it would enable the writer to give more definite information as to what species may be grown there.

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TOKAYS CRACKED.

Editor Cultivator.—I have Tokay grapes set out two years ago from one year roots, that I believe have too much water, being set out at the edge of a lawn. This year the grapes cracked before ripening. Did they have too much water and can I move them, if so, at what time?—Sanford Rich, Hollywood.

The vines evidently got too much water. Mildew will do the same thing even when Tokays suffer for water, but if these grapes received too much water they are pretty sure to crack and are sure to develop a poor flavor. The vines may be moved, the best time being soon after the leaves have dropped.

* * *

SOUR ROOT.

Editor Cultivator:—What is the cause of sour root of deciduous trees and the preventative and cure. The soil is a black sandy loam on live oak land.—S., Arroyo Grande.

Sour root of deciduous trees is caused directly by a ferment that gets in the sap. How it gets there is often a mystery. The disease is so little understood that no known remedy is as yet given. In fact when the disease is so far advanced as to make itself manifest, there is no hope for the tree. There being only theory advanced as to how the germs of fermentation gain entrance into the circulation, we can give no preventative. It may get a start through wounds in the bark by careless cultivation, or by the bites of insects, Sour sap is often caused by rise of the soil water, or by poor drainage where irrigation is practiced.

* * *

ORANGE SEED BED DISEASE.

Editor Cultivator:—Can you tell me the cause of and remedy for the dieback or rotting of the bark just under the surface of the sandy loam in my orange seed bed plants? One bed is ruined and another is going fast. The trees seem to be O. K. until they are from one to three inches high and then die suddenly. I believe the trouble is not a new one and I feel satisfied that it is not caused by too much water.—Subscriber.

The trouble is known as "damping off" and is one of the most troublesome diseases in seed beds. It is generally caused by too much water and sometimes by flooding after the young plants have been allowed to get a little too dry. It is caused directly by a fungus which spreads rapidly from one plant to another. If one bed of seedlings is badly damaged, it will be expedient to spray with Bordeaux mixture. This will ruin the young seedlings, but they will die anyway, and the spraying will destroy the fungus that makes the disease. This fungus will live and grow after the soil has been allowed to lie bone dry for a season, as soon as the proper conditions occur. In order to avoid damping off, keep the beds as sunny as possible and have a good under drainage. When it once makes its appearance, parts of the beds infected may be sprayed and thus check the trouble. If it once gets well spread through the beds, there is no remedy known that will not also injure the plants.

* * *

KING ORANGE.

We are often asked for an opinion on the King orange, if it is a desirable fruit to plant for home use or shipping, etc.

This orange came into prominence a few years ago when it was announced that it brought eight dollars ($8) per box in one of the large eastern cities. We took pains to inform ourselves about that particular shipment and found that it had sold at the price stated, but it was paid by a speculator who carted the fruit around till a part of it was spoiled and he then sold the balance at some figure that was not particularly enticing to a grower. This information was obtained through the Southern California Fruit Exchange and we take it as correct.

The King orange is classed as a Tangerine and is much larger than the Dancy Tangerine and very rough and coarse in appearance. It ripens with or a little later than Late Valencia and is of superior flavor. If it could be handled properly in certain markets, it might find a limited demand. It comes at a time when other fruit floods both eastern and western markets and unlike the Valencia, it deteriorates very rapidly after reaching maturity. The tree is very susceptible to cold and recovers very slowly from a drying wind or severe frost. The fruit when once frozen, no matter how green, will not recover as Valencias or St. Michaels seem to do, but develops much pith and becomes puffy. We should not recommend it for planting even for home use except where frost is very light and drying winds are not severe. It fills out the season with Valencias as the Dancy Tangerine does with the Washington Navel. Taking it all in all, we much prefer the St. Michael, it being much finer in grain and lasts over a longer period than the King.

* * *

GINSENG AGAIN.

Nearly every mail brings us inquiries about raising ginsing in Southern California. We have discouraged it in recent articles and hope the following will be strong enough to deter our readers from considering it further. The ginseng fever bids fair to rival the Belgian hare craze that swept the country recently. Circulars are being circulated setting forth the immense profits derived from it, and like the hare craze, those who have stock to sell will reap a rich harvest. We hope the experimentors will start out on a very small scale. The Maine experiment station has the following in part to say on the subject:

"The plant is a native of cool, moist, shady situations, and is soon killed if exposed to the glaring sunlight. It usually thrives best in moist loamy soils such as are found in oak or maple forests in the north (of Maine). Seed is sown as soon as ripe in September. The bed is covered with leaf mould and brush to prevent drying and cracking of soil. Eighteen months are usually required for germination. When the seedlings are two or three years old, they are transferred to permanent beds as carefully prepared as the first. The plants are set four to six inches each way and are not again disturbed, except to keep the weeds down, until the harvest time; which will be in four or five years from transplanting, or six or eight years from seed. Transplanting is best done in the fall and the roots are set so that the buds for the next year's growth are about three inches below the surface of the ground. The roots should not be cut or trimmed. After the roots are set, a lath shed should be built over the entire area covered.

The roots of cultivated plants are usually larger and more uniform than those from the wild and bring from 50 cents to $1.00 more per pound. The long time required for returns will, however, deter most people from undertaking the work of cultivation. In general, if an experimental bed is determined upon, it is wiser to purchase seedling plants rather than attempt to start seedlings. But (here is where we urge attention.—Ed.) no one should be deceived by the glowing accounts of possible fabulous returns from the enterprise. The present high prices are said to be maintained by a syndicate of Korean merchants who control the native product. On the other hand, the demand for the article is apparently limited only by the exhorbitant price and with an increased supply and consequent reduction in price will come an increased demand for the roots.

The experiment station would not encourage ginseng culture in Maine, but those intending to attempt this industry would do well to purchase the little booklet "Ginseng," by M. G. Kains, published by Orange Judd Company, New York; also Bulletin 16, Div. of Botany, U. S. Dept. of Agriculture."

The above was published in September by the Maine Experiment Station as a warning to those who are attracted by glowing accounts of firms having seeds and roots of ginseng to sell.

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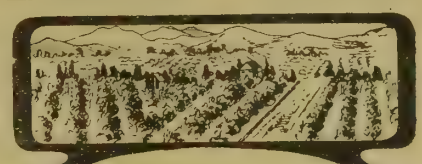

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Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

(Continued.)

FAMILY COCCIDAE.—We complete our survey of this bug order with an account of the scale insects. As these are the arch enemies of the citrus fruit grower, all will read with interest aught regarding their life and habits. These are easily told as after a few days of active life, just subsequent to hatching, they assume the form of scale, move but little, but from their countless numbers, they suck quantities of sap, and so are a fearful drain upon any tree or shrub that they may infest. There are three well marked sub-orders, the Coccinae, which contains such insects as the mealy bugs which are always active are not scale form, and furnish such useful articles as carmine and shellac. Some of them are very destructive, as witnessed in the mealy bugs, and unfortunately they are equally hard to conquer. The second suborder, Lucaninae, includes such insects as the black scale and the soft brown scale. These anchor soon and then move not at all, or at least very little, unless much disturbed, and when we touch the scale we touch the insect itself. That is, the scale is the insect. Most of these, like the black scale are oviporous. That is, the mature insect lays her eggs under her body, after which she dies, though she still hides the eggs with her carcass. A few, like the soft brown scale are ovoviviporous, or in other words, the mature female does not lay eggs at all, but the eggs hatch inside her body, and the young are born alive and active. The third sub-order is the Diaspinae. Our common red and purple scale and the San Jose scale belong here. In these, after a few days of activity the insect secretes a cover which with a center of two cast skins or moults form a close snug armour, which conceals and protects the scale. In these when we touch the scale we do not touch the insect as the latter is concealed and protected by this armour. These are often referred to as the armoured scales. Most of these I think do not lay eggs, though a few, like the purple scale lay eggs under the armour. These are harder to kill than the other scales. They also hatch more unevenly, and so for a double reason are more difficult to kill than are the unarmoured scales. All scale soon after they commence to work their force pumps, secrete a kind of nectar of honey dew. This attracts a black fungus, and it is this that makes the leaves smutty, and makes it necessary to wash the fruit. This also attracts bees, which repel birds and other enemies of the scale, and so we see that the honey dew is protective to the insects that secrete it. Many scale like the red and San Jose, are hatching all the time in summer, and so we find them of all sizes on the tree at all times. This is more or less true of the black scale. Though along the sea shore they too are hatching very irregularly. Even inland, the last few years, they have been hatching with provoking irregularity. For two or three years just before this, I could find scale of all sizes at every month of the year. This year, for some reason, they have come out very uniformly, and so are much more easy to fight. May this not be because of the cool year? The exceptional cool weather of the early season would surely retard development and might be supposed to secure more even hatching. If this be the cause it would be interesting to have the full proof, as such years would be the ones to choose for either fumigating or spraying, as either thoroughly done would give very perfect riddance of the insects for a long time. I believe that very thorough fumigation or spraying in our inland orchards would suffice for three years. It is surely true that where we have uniform hatching if treatment is required every year, a very poor piece of work is done.

There is no doubt but that a thorough fumigation will kill all young scale insects, and if a strong dose is used the mature insects and the mealy bugs can be destroyed. Mr. Payne believes experience shows that if this heavy charge of cyanide be given on a very cold night the trees will not be injured. If fumigation on a cold night will permit a charge that will kill the old scale and the mealy bugs and not injure the trees, it will be very important to have the full proof.

There is one truth that is big with promise in this matter of scale depredations. I refer to the fact that almost all insects, even the scale, have enemies in their native home that are able to hold them in check. If these enemies could always be introduced with the insects, then they would continue to hold them down and we would be less troubled. If we could introduce them later the matter would need to give us little worry. When the Vedalia was brought here the Cottony Cushion Scale lost its potency for evil. We may hope that the Scutellista bids fare to do as well in case of the black scale. May we not hope that a similar cure awaits discovery with all these and all such pests. That the white fly of Florida, and the orange maggot of Mexico, have not such checks is indication that they are not native to those regions.

* * *

GRUBS.

M. S. Phillippe, Campbells, Cal., sends me some grubs found about his bee hives which interest him and of which he wishes to know more. These are certainly the larvae of beetles, or grubs. These were so crushed that I could not determine just what they are. Only the head shield remained intact. Soft insects should not be sent loose in a letter. I do not think Mr. P. need have any anxiety about these grubs as they are probably an innocuous species.

* * *

TAILOR BEES.

Mrs. Althea Scudder, Santa Ana, sends some leaves which have circular and oblong pieces cut from them by some insect. She thinks it must work at night as she has never observed it at work. These insects are the tailor or leaf cutting bees. They work in the day time and cut these pieces to be used in making their cells. They work principally on the rose and do very little damage.

* * *

SULPHUR WITH DISTILLATE FOR RED MITE.

William H. Watt, of Upland, writes that he has found that distillate spray properly applied is sure death to black scale and red mite (red spider), but the latter requires frequent spraying. He says that there are no scale in his orchard but has the red mite galore. He found last year that dusting with dry sulphur in July was so efficient that now the orchard has very few of the mites. Another orchard recently given a thorough spraying for scale with two and a half per cent solution of distillate has countless living spiders. Mr. Watt wishes to know if it would not be possible to mix sulphur with the distillate. I have no doubt of the wisdom of combining these two insecticides. While I know that the distillate will kill some of the eggs, yet some of them will survive and so the work may not prove satisfactory. The effect of the sulphur will survive several days, as the killing is done by fumes which are constantly given off by the influence of the heat of the sun. It is found, however, difficult to mix the sulphur with the spray and unless great care is exercised, the fruit is likely to be burned. I would suggest that a stock solution made after the formula of the University bulletin of the sulphur and potash, be added to the distillate spray, the latter taking the place of the water as recommended in the bulletin. I have not tried this but believe that it would be effective, would not injure the fruit or clog the nozzle. I would certainly recommend Mr. Watt and others to give it a trial.

Last Monday while visiting the Upland orchards, we found a good many of these red mites and in all cases accompanied with black scale. I urged the owners in applying their distillate spray to mix this stock solution as recommended by the University and advised treatment at once, as the spiders increase very fast, and I see no reason for delay. Mr. Watt need have no anxiety in the matter of the sulphur injuring the spray. It would do no harm and would certainly add to the effectiveness of the insecticide whenever the orchard was infected with the red mite. It would be well, however, to experiment a little before carrying on the work in a very extensive way.

O. W. Prescott, Covina, wishes also to treat black scale and red mite. He wishes to know what per cent of distillate to use. Two to two and a half per cent is as strong as it should be used on the orange because of the thick foliage, if the work is thoroughly done there is so much added that there is danger if a stronger mixture is used. Mr. Pease, horticultural commissioner of San Bernardino county, strongly urges the use of the distillate from the Southern Refining Company, as he says he has never known that to injure, while other distillate frequently does damage.

* * *

BEAUTIFUL GOLDEN BEETLE.

F. M. Oliver, La Mesa, Cal., sends me the tortoise beetle. He speaks of it as a lady bird beetle, says he has never seen one before and wishes to know about it. Mr. O. is wrong in placing the insect. It is not a lady bird beetle at all but is one of the leaf beetles. The two families are often much alike in form, but the leaf beetles can always be told by their longer antennae, which are always plainly visible. To see these organs in the lady bird beetles, one has to look carefully. These beetles are well called tortoise beetles as they are much the form of a turtle. Some of these beetles, and the one sent is a sample, are of a beautiful gold color with a metallic luster that is almost startling. Unfortunately this splendor disappears upon pinning the insect. The species sent by Mr. O. belongs to the genus Coptocycla. I have known these insects to work on the sweet potato and ground cherry, a species of the solanum family, in the state of Michigan. While the leaf beetles are usually quite destructive, as they infest foliage both as larvae and imago, yet I think these tortoise beetles are rarely numerous enough to cause alarm.

* * *

CULTIVATING THE WALNUT.

Chas. L. Partridge, Redlands, desires information with regard to walnut growing. I know of no work that treats of this subject. There have been excellent papers given at our farmers' institutes which I think were published in the agricultural journals. It would certainly be desirable for any one who wishes to study the subject to visit some one who has made a succes of walnut growing. One could certainly get a wealth of information and learn very fast by spending a day with such a man as Mr. E. G. Ware, Garden Grove.

* * *

SPOTTED LEMONS.

T. West, San Diego, sends lemons that are badly marked. These are only samples of what have come from many places. Last Monday I visited with Mr. Pease and Inspector Goodrich two orchards in Upland where the fruit was very badly marked. It is our opinion that the first cause of this spotting of fruit is insects. The sun also tends to emphasize the insect scars and very likely the spray or fumigation will further deepen the injury. The fact that all the marred fruit is towards the sun shows clearly that the sun is a leading factor. It seems almost certain that thrips and red mite, of which, as I recently stated, there are two species working in the orchard, have been the chief cause in this extensive spotting of citrus fruit this year.

I think that people are very apt to magnify the amount of damage in looking at trees, especially if the spotting is very bad. One is very apt to say that fifteen or twenty per cent of the fruit is damaged, when by actual count it will simmer down to three or four per cent. Even the worst orchards that we have examined will, I think, show very little damage when it comes to the marketing. Usually not very many trees are seriously affected, and in these cases the number of injured fruit on actual count is far less than one would suppose upon a hasty inspection.

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A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

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$7.50 PER TON

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LOS ANGELES, CAL.

Citrus Stock

A FINE LOT

FOR NAVELS VALENCIA NAVELENCIA LEMONS **1903**

MILLS & MASTERS

J. MILLS, MANAGER

RIVERSIDE, CALIFORNIA

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Remember, we are absolutely unprejudiced, as we have no interest in any fertilizer, and any general dealer in fertilizers can supply the materials we direct.

THOS. C. WALLACE

DIRECTOR FERTILIZER CONTROL

Phone Main 147 Riverside, Cal.

Coast News and Notes

By R. A. Dague, Cor. Sutter and Sansome St., San Francisco

HORTICULTURE.

Olives are now ripening near Oroville.

The prune crop in Servia was poor, and the old stock is exhausted.

Florida will this season have a good crop of oranges and of excellent quality.

Some of the grape growers of Los Gatos are taking care of their fruit on the co-operative plan.

The grape crop near St. Helena this year was an average one. Prices ranged from $16.50 to $18.00.

Raisin packers in the Selma district estimate that about 3500 tons of raisins will be handled there this season.

The raisin crop of Fresno county this year is now estimated at 86,000,000 pounds. Last year it was 80,000,000 pounds.

Alex Craw recently sent to Cuba a colony of insects to destroy a parasite that is preying on the pineapple there.

The total shipments of fruit by the California Fruit Distributors at Sacramento, up to this writing, is about 7093 cars.

Since the commencement of the apple season the Atlantic Transportation line has shipped 120,000 barrels to London.

Articles of incorporation of the Vineyard Proprietors Wine Company have been filed at Santa Rosa. Capital stock $[illegible],000.

Prof. G. E. Colby, of the University of California, has discovered an instantaneous bleach for dried fruit. It is sodium peroxide.

Los Gatos grapes have been coming into the San Francisco market in large quantities for two weeks. The growers were paid from $18 to $25 per ton.

The California Fruit Distributing Association claims that it now superintends the shipping of 95 per cent of the fresh deciduous fruits of California.

The Los Gatos canneries are labeling, casing, and shipping something over 2000 cases per day. They have difficulty in securing cases as fast as they need them.

The citrus fruit crop of Southern California which will begin soon to start eastward, will approximate 35,000 carloads or 10,000 more than any former year.

The Fruit Grower's union of Santa Clara county have shipped at this writing, about 85 tons and received over 200 tons. A dividend of 35 per cent was declared last week.

A car was loaded at Sebastopol, one day last week, with 1430 cases of fruit weighing 86,000 pounds. That, it is said, is the largest car load of canned fruit that ever left Sonoma county.

J. C. Adriance, at the Napa Farmers' Institute last week, recommended spraying twice each year for pear fungus. He uses 5 pounds of blue stone and 5 lbs. of lime to 50 gallons of water.

The Fisher-Meritt Fruit Company of Geyserville is running night and day grading prunes. The company has purchased so far about seventy-five tons at prices satisfactory to the growers.

Tehama county would seem to be the natural home of the pear. D. S. Cone, five miles from Red Bluff, realized $29,500 for his crop of Bartlett pears raised on 100 acres—nearly $300 per acre.

The prune drying season is over. The natural conditions for curing could not have been better in Central California. The crop in the Santa Clara valley is only about half that of last year. Some dried prunes have been sold for 2¾, but the growers are holding generally for 3¼ to 3½. The old stock has been nearly cleaned up. Most of it was sent to Germany.

Tehama county is becoming noted as a fig producing section. They produce there the product from the "female fig" first imported into California by Senator Stanford. It is of the Smyrna variety.

Jesse Teague exhibited in Visalia, one day last week, a large bunch of black berries known as the "Evergreen." The branch also supported several white blossoms. And this was the last part of October.

The Vineyard Proprietors' Wine Association of Sonoma county, just organized, is meeting with much encouragement. Ten thousand tons of grapes have already been promised to the project. The capital stock is $100,000.

After testing twenty-seven different methods of canning cured olives, S. M. Gifford of San Diego, has succeeded. The fruit, as put up by Mr. Gifford, has a fine flavor. He will erect a cannery immediately and launch his new article.

December 3rd has been the date fixed by the Inter-State Commerce Commission for the final hearing of the case of the Southern California Fruit Exchange against the Southern California Railway Company over the controversy of routing fruit.

Geo. B. Katsenstein, manager of the Earl Fruit Company at Sacramento, says: The outlook for California dried fruits is very bright. There is an increasing demand for our product. In time this will become one of California's leading industries.

The dried fruit market of Los Gatos continues dull. There seem to be few buyers in the field, and growers who call on the packers are informed that the price on prunes ranges from 2½ to 2 5-8 basis. The growers at this writing are unwilling to sell at those prices.

There is a cherry orchard on the Stevens road, in Santa Clara county, of twenty acres, for which the owner refused $30,000. The secret of the great value is that the owner knows what trees to plant and how to cultivate them. He is getting rich while some of his neighbors who have cherry orchards equally as large, can scarcely make ends meet.

The Minnewawa ranch, in Fresno county, has demonstrated that it pays to do farming thoroughly. They do no careless, hap-hazard work, from raising calves to fruits and grains. Last year they sent east six car loads of Emperor grapes which were sold for more than $200 a ton, or for $15,000 for the lot. This ranch is owned by Dr. W. N. Sherman, of Fresno.

A. S. Simpson, manager for Castle Brothers, dealers in dried fruits and nuts, at Sacramento, recently said the present outlook for dried fruits is the best we have ever known. We have commenced shipments and expect to ship over 250 car loads. Of this we shall send about 100 car loads to Europe. The demand for California dried fruits abroad, especially in Germany, is simply grand.

The Italian-Swiss colony of Sonoma county, banqueted 150 bankers last week who were attending the National convention. The visitors were shown the immense winery near Asti and the process of making wine. They were surprised at seeing a wine tank that holds five hundred thousand gallons. The financiers were banqueted out doors, which was also a surprise to them, considering the time of year.

Probably one of the greatest strawberry centers in the world is at Florin in Sacramento county. Up to August 5th, 1902, the season's shipment of strawberries from Florin amounted to 1095 tons, which sold for $131,400, or as high as $800 per acre. This season's crop is estimated at 200,000 crates of fifteen pounds to the crate. The principal berry raised at Florin is the "Dollar berry" and the "Jessies."

D. A. PEET.....

GRAPE NURSERY

All the latest varieties. LA CANADA, CAL

Citrus Tree Bargains

We have several thousand fine orange trees, leading sorts, for sale at a special rate if taken before Dec. 1st. Headquarters for trees on Trifoliata or frost resistant root.

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Eucalyptus Citriodora?

I have them in seed boxes at $6.00 (cash) per 1000, if taken quick. 11 other varieties.

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We make a specialty of growing first-class citrus seedlings and have in our seed beds for next season's planting the best and most complete stock we have ever offered, including the following varieties: SWEET ORANGE, FLORIDA SOUR ORANGE, FLORIDA ROUGH LEMON, POMELO, and the hardy frostproof CITRUS TRIFOLIATA, all having their points of advantage under different conditions, as budding stocks. All our trees are home grown; no "White Fly" importations from Florida. We also have a stock of Valencia and Navel 1-yr. buds, English Walnuts, Loquats, Shade Trees, Ornamentals, Cabbage Plants, etc. For further information and prices, write us.

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DIFFERENT VARIETIES OF EUCALYPTUS
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We will offer 100,000 deciduous fruit trees for sale next season

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PLANTS for sale in quantity to suit All from plants direct from East. Very thrifty plants.

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Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
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Navels and Valencias

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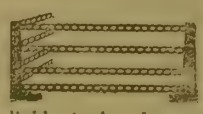


Should a strand become broken or the one nearest the ground rust out, as is liable to be the case with all wire fences where the ground is wet, it is only necessary to replace the injured strand. The length depends solely upon the extent of the damage as it can be repaired readily from post to post.

Write for descriptive circular.

Pacific Hardware & Steel Co.

401 Mission Street, San Francisco.

Coast News and Notes

CONTINUED

AGRICULTURE.

Tehama county's peach crop this year is given as about 40,000,000 pounds.

El Monte has been shipping quite a quantity of walnuts. One car load realized $3500.

The price of hay near Stockton has, quite recently, dropped from $2.00 to $3.00 on the ton.

Anspacher Brothers, of Livermore, are importing seed wheat for the farmers from Australia.

The Spreckles sugar factory is running to its full capacity, slicing 3000 tons of beets daily.

In 82 days, says the Chino Champion, 59,415 tons of beets were sliced at the Chino factory

Beans are slow sale. One grower in the Santa Monica district sold 8000 sacks for 3 cents flat.

The lima bean crop raised on the Limoneira ranch, near Santa Paula, will make about 5000 bags.

The bean crop this year in the Santa Maria valley is but 100,000 sacks. Two years ago it was 200,000.

Beans in Ventura county are slow sale. The price is down to $2.50 for limas and $2 to $2.25 for black-eyes. Growers are disgusted at such prices.

O. E. Bremer, of Sonoma county, has placed on exhibition with the State Board of Trade, some splendid specimens of chestnuts grown in his county.

Tehama county has now come forward with the claim that it can and does excel in sugar beet production, in that their beets contain 25 per cent of sugar.

The Goldman Colony management will soon have their twenty-acre tracts on the market, but no tract will be sold unless properly irrigated.

The expected rise of the price of hops in October did not come. The growers still contend they will go to the 25 cent mark or higher.

The wheat output of California this season, is now known approximately. It is only half a crop, or 500,000 tons The barley crop is estimated at from 500,000 to 575,000 tons.

The greatest asparagus canning and shipping district in the world is in Sacramento county. Here the canning of asparagus was originated. Now the canned vegetable is sent to all parts of Europe.

J. F. Burgess of Sonoma county, gave the editor of the Santa Rosa Republican samples of walnuts grown on his ranch. The nuts are fully two inches long, and with their coverings, as large as big pears.

The Sacramento Chamber of Commerce says that cultivated orange orchards in that valley, ten years old, are worth $1000 per acre. Ten acres of orange trees ten years old, will nicely support a family.

LIVE STOCK.

The Watsonville creamery is making 400 pounds of butter daily.

About two car loads of eastern poultry arrives at San Francisco every week; they bring good prices.

The Sonoma County Poultry Association has formed another branch association. This one is at Penngrove.

Last year 1850 car loads of poultry and eggs were shipped into California from eastern points, and yet this state is peculiarly adapted to the raising of chickens.

Several capitalists of Santa Barbara have formed a corporation to engage in cattle raising in Mexico. They have leased 350,000 acres and will do an extensive business.

A plea has been made by a citizen of Tulare county in behalf of the chicken hawk. He says one hawk will kill more squirrels than a man hunting them for the bounty offered.

Sheep, to the number of about 5000, have died in the reserve above Crane valley. The rangers found them in the reserves and drove them out and scattered them, hence the heavy loss.

The ranchers of Santa Clara county are alarmed over the movement of the Bay City Water Companies, which are trying to divert to their use the rainfall of the water sheds of that county. Indignation mass meetings are being held and money subscribed to prevent this menacing injury.

H. Parnhan, residing not far from Pleasanton, owns two cows. He delivered to the Santa Rita creamery in thirty-one days 1674 pounds of milk in which time he received for the milk $17.65, or nearly $9 for each cow. Two weeks of this time he fed two calves from the milk from the same two cows.

MISCELLANEOUS.

An electrical gridiron is a late invention to kill flies.

Twenty thousand people emigrated from Norway to the United States last year.

Redwood lumber has recently advanced $1.00 a thousand feet for the export trade.

Fresno county's system of irrigation includes 300 miles of main canals and 5000 miles of branches.

Last year Sonoma county produced $64,685 worth of quick silver, and large quantities of good mineral paint.

Red Bluff has a factory that manufactures and sells in Hawaii, Australia and the Philippines 100,000 doors annually.

During the past fiscal year the United States bought from foreign countries tropical fruits to the value of $22,000,000.

Twenty-eight California counties have arranged to prepare individual exhibits at the St. Louis exhibition. The exhibits of the other counties will be consolidated.

On November 1st the Southern Pacific Railroad advanced the rates on lumber shipped from Portland to San Francisco from $5 to $7.50 per ton.

The Southern Pacific Company is proposing to run all its locomotives with oil fuel. To that end it will own its own wells. It has already bought several wells at Bakersfield, paying $1,525,000 for them, and is negotiating for others.

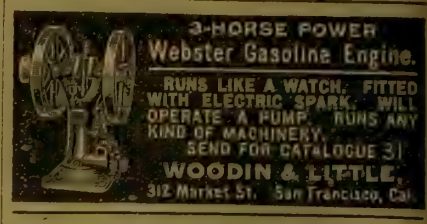
The Chamber of Commerce of Sacramento, in its publication says: "After ten years of experimenting the fact has now been demonstrated, that so far as California is concerned, the Sacramento valley is both commercially and in quality the natural home of the orange.

Manager Briggs, of the State Board of Trade, has sent letters to the leading citrus growers north of the Tehachipi, asking them to join in a proposed citrus fair, to be held Thanksgiving week in the nave of the Ferry Building at San Francisco.

The California Promotion Committee has commenced a systematic collection of newspaper clippings, which will be pasted into scrap books, and placed with the State Board of Trade, for inspection by easterners. Every county will be given a book. Contributions of clippings descriptive of industries are solicited.

The last legislature passed a law to regulate the sale of perishable products on the water front of San Francisco. The law provided that all persons selling on state grounds should have a permit. In that permit the signer agreed to engage in no boycotting or engage in no discrimination as to selling. It is now charged that commission men, have flagrantly violated the conditions of the permit and the object of the law has been defeated.

The Grangers are pushing their cause in Sonoma county. Meetings from now to August of next year have been provided for as follows: First Saturday in November,; Bennett Valley, second Saturday in December; Santa Rosa, third Wednesday in January; Geyserville, second Saturday in February; Glen Ellen, first Saturday in March; Santa Rosa, third Wednesday in April; Petaluma, second Saturday in May; Sebastopol, first Saturday in June; Santa Rosa, third Wednesday in July; Two Rock, first Thursday in August.



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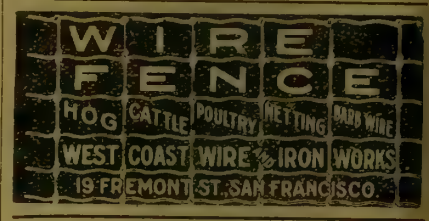

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Walker's Champion Tree Prop Bracket has been reduced to $16 per 1000 everywhere. Ask your hardware dealer for it. If ordered direct, send cash, and freight will be prepaid. Now is your time to buy the best Tree Bracket in the market.

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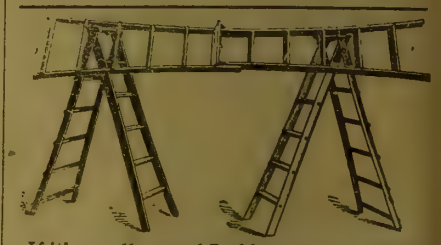

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THE EMERSON DISC PLOW

Superior to All Others

This plow is better constructed and has more adjustments and is adapted to a greater variety of soils than any other disc plow.

Has steel beams, adjustments are simple, is ball bearing, and will turn square to right or left.

Descriptive matter mailed on application.

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Los Angeles, Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

CAKED UDDER.

For caked udder the Dakota Farmer gives the following: "Bathe the affected part with the following, rubbing for ten to twenty minutes at a time: Distilled extract of witch hazel, 3 ozs.; alcohol, 3 ozs.; iodide of potassium, 2 ozs.; fluid extract of belladonna, 1 oz.; dissolve the potassium in the alcohol, then add the belladonna and lastly the witch hazel. Use only on the part affected, both morning and night."

The above prescription will be made more effective if a drench of Epsom salts, molasses and ground ginger is administered and in addition the following is given internally three times a day: 15 grains of iodide of potassium dissolved in hot water, and 15 drops of fluid extract of poke root. Take away all heating feeds, such as cotton seed meal, corn meal and gluten. Feed cool and laxative food.—Jersey Advocate.

FEED WET.

Editor Cultivator: Which is best, to feed to milk cows, bran and oil cake dry or wet? Kindly answer through California Cultivator.—C. F. B., Santa Rosa.

You will get the best results by feeding the ration damp. See that the oil cake meal is not lumpy, however, when you feed it wet; mix well.

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

DIARRHEA.

Editor Cultivator: Can you, through the Cultivator, advise me regarding treatment of a horse? He feeds well and seems to be all right but if driven faster than a walk he is attacked with scouring so bad he cannot be worked. If you can advise anything that will help him I shall be greatly obliged. He is about ten years old.—E. C. Smith, Watsonville.

Eucamphol, 2 ounces, water 1 pint. Mix and give ½ ounce by the mouth, with hard rubber, long stem syringe every two hours during the day. Water the horse at least one hour before driving.

* * *

WOUND OF THE NOSTRIL.

I have a colt that is about a year old. Some time ago it ran into a wire fence and cut a hole in its nose about 6 inches above the nostrils, so that it breathes through the opening. Could it be covered with a silver plate and skin made to grow over it?—R. Heacock.

If the edges of the wound were pared raw and properly sewed together and kept aseptic, the wound would heal without a plate.

WATERING DAIRY COWS.

Always give a cow all the fresh water she wants. The more water a cow can be induced to take into her system the more milk she will yield, all other things being equal. As the period of lactation advances, the amount of decrease of water taken into the system and the amount of milk produced are almost exactly in the same proportion; that is, the decrease of water taken in during one test was 19 per cent, while the milk decreased 20 per cent. In another test the decrease of water was 14 per cent, while the milk diminished 13 per cent.

This is not chance, but characteristic of cows. At the Wisconsin Experiment Station, in seven out of eight tests, the cows took more water into the system daily and gave more milk while eating silage than on cornfodder, thus showing that the rations that produced the most milk contained the most water. With silage fed there were 2.9 pounds of water for each pound of milk yielded.

Cows should not be allowed to drink very cold water, as it reduces the temperature of the body. They often take chills, and it requires a good deal of vitality to recover from the ill effects. The late Hon. E. F. Bowditch, of Farmingham, by experiment, found that by giving twenty cows water at a temperature of 92 deg. F. the supply of milk was increased 200 quarts per week, conclusively proving the value of warm drinks over cold, in winter.

Two experiments conducted at the Maryland station showed that water at 70 deg. F. gave better results than the same at 32 degrees. The cows ate more while on warm water than on cold. Now decide which is cheaper to warm water in winter with, coal at $3 or $4 a ton, or with hay and grain after the animal drinks.

It is an interesting fact that a cow in full flow of milk requires from one-fourth to one-third more water than when she is not giving milk, and a cow giving a large quantity of milk requires more than one not giving so much. Cows not giving milk require from 70 to 80 pounds daily upon dry feed, and from 100 to 120 pounds daily, when giving milk.

Above all things a cow should never be permitted to drink stagnant or impure water. Drinking stagnant water produces a feverish condition in the system, which is manifest by a ropiness in the milk. Samples of milk from cows that have been drinking stagnant water, when put under the microscope, will show them to be fairly swarming with life which has been taken into the system through the water.—Up-to-Date Farming.

It is estimated that more than one thousand more cows will be dairied in this section in 1904 than during the present year. This shows the progress in this industry among us, and this is but the beginning of an industry that is destined to become next to fruit in production and profit. Ten years more and the Lompoc valley, covering about 13,000 acres, will be practically given over to winter apples and dairying.—Lompoc Review.

SOME RECENT TRANSFERS OF CALIFORNIA JERSEY CATTLE.

Santos 2nd, 53190, G. Y. Coutts to David Dudley Field, Santa Ana, Cal.

Aurora B. 175977, Miss Sibyl B. 175976, H. B. Hitchings to Ray Felt, Eureka, Cal.

Melia Ann's Inez 147784, A. B. White to John C. Keefe, Orange, Cal.

Santos' Dotty Dimple 175735, G. Y. Coutts to E. M. Wheeler, Santa Ana, Cal.

Betty Bonner 144764, Alice H. Nettleton to Garth & Hardcastle, South Pasadena, Cal.

Dewey of Humboldt 55114, J. M. Vance to H. A. Marks, Marks to U. J. Noe, Eureka, Cal.

Peter's Pride of R. 65414, G. W. Thomas to Peter Johnson, Jr., Riverside, Cal.

Melia Marigold 161702, A. B. White to W. D. White, Rivera, Cal.

Frankie A. of Eureka, 159166, H. E. Albee to Rae Felt, Eureka, Cal.

Legacy's Tormentor 65962, A. C. Davis to T. C. Purvine, Petaluma, Cal.

Ethel's Ona 175942, Davis & Carll to T. B. Purvine, Petaluma, Cal.

Vexer's Gold Bead 175943, A. C. Davis to T. B. Purvine, Petaluma, Cal.

Imp Sultane's Golden Fern 65304, C. E. Still to A. B. White, Los Angeles, Cal.

Santa Evangeline 165861, C. S. Burgess to C. E. Kennedy, Riverside, Cal.

Sunny Jim Marigold 66098, A. Chisholm to Theo. Schwartz, Anthony House, Cal.

Victoressa Belle 168591, G. B. Renfro to C. H. Wiliams, Monrovia, Cal.

Thomas Waite, of Perkins, writes the Cultivator that he has just shipped four fancy boars to the Philippine Islands. He states also that he has just ordered a Jersey bull of Guy Miller, of Riverside, through an advertisement in the Cultivator.

Young calves need water as well as milk. Set a pailful over the fence in the yard and see them drink it down.

Visit cattle shows in order to see other animals and to show your own, so as to compare and get practice in judging animals.—American Stock Farm.

Do not pair two young animals—that makes both parents and progeny suffer.

Make a memorandum of the milk yield, and if possible its test, only thus can a positive knowledge of the cow value be secured.—American Stock Farm.

Keep a record of the breeding (a herd book), by which you may determine the breeding value of an animal.

Join a bull association so as to secure the service of a good bull at a reasonable cost.

The calf should have new milk exclusively the first fourteen to twenty days.—Texas Farmer.

The calf should be protected against dampness and draught—it is very tender while young.

WANTED—A GOOD LOCATION for Bees convenient to Los Angeles. Address J. H., CULTIVATOR OFFICE.

Removal Notice

OF

The Cutter Analytic Laboratory

On account of extreme summer heat interfering with laboratory processes, we have moved our laboratory from **Fresno to Berkeley.**
Our head office is in the Rialto building, corner Mission and New Montgomery Sts., San Francisco. Our P. O. address is

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Rialto Building, San Francisco

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CUTTER'S BLACK LEG VACCINE

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Cream Separators — Milk Cans
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Engines & Boilers — Milk Coolers
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Why Keep the Cow?

From the manner some dairymen keep cows we should judge they have no special purpose in view except to furnish employment for the children. A dairyman remarked this recently to the editor of the Cultivator. We asked him if he made his dairy pay. He said no, but he needed something for the children to do mornings and evenings. Of course his dairy don't pay. It never will until he runs it on a higher plane than he is doing today.

In the first place, he ought not to expect his girls to milk. They should find employment in the house helping the mother. In the second place, he ought not to trust to his boys to milk, for as a general rule they never milk a cow right. They only half milk her. They are noisy, full of play and have no interest in their work. They hurry through it and often leave the cow s with lots of milk in the udder. They complain that the cow is hard to milk, "won't give down" milk, etc. Of course a cow will not give down her milk if she is scolded, kicked or beaten. Dairy cows require to be kindly treated, gently handled and never made nervous. Too many people totally neglect every one of these rules and then complain that dairying don't pay. To be successful the dairy business means personal attention of an intelligent order. To get the best results one must surely like the work; feel a pride in the personnel of each cow and study every feature of the business. See that the cows have plenty of good, clean food, and water, comfortable quarters, and kind attention. Milk out the milk clean and be sure to milk at regular hours. If these few simple rules are followed the results will be satisfactory. In line with these suggestions 'Farm, Field and Stockman" offers the folowing ideas which are pertinent to the subject:

"Milking is an operation which requires skill, as it has an important effect on the amount and quality of milk given. Dairymen know that there are great differences between milkers as between cows and that cows will do much better with some milkers than with others. Indeed, good cows are often almost ruined by poor milkers.

The milker should avoid handling the cow more than is necessary, and he should make it a rule to do his work quickly and thoroughly. He should never go from a sick to a well cow without first cleansing his hands. The habit of wetting the hands with milk is filthy in the extreme and should never be practiced. Some people think it is necessary, but this is a mistake. The hands should be kept dry. If they are not, it is impossible to prevent drops of milk from constantly falling from them into the pail.

THE BEST COW.

The best cow for each one of us is the cow we like best to handle and be around. There is such a thing as incompatability of temper between the man and his cow ofttimes, and this fact often marks the line between success and failure. The man who loves his cows and cares for them as a man will who has this affection for his stock, will most assuredly receive, better returns from his labor than the one who simply tolerates his dairy. The man who takes pride in the Guernsey or the Jersey or the Durham should turn his attention to that particular breed.—Dairy Journal.

ANTI-GERM MEASURE.

Owing to the spread of diphtheria the origin of which has been traced to the dairies, the health officer of Los Angeles has made up his mind that a radical change must be made in the method of disposing of milk. If his recommendation is adopted by the council of the city of Los Angeles, an ordinance will be drafted which will require milkmen to leave milk in open vessels and not in sealed bottles as is now done.

The contention of the health officer is that disease is carried from sick room to sick room through the agency of the milk bottles, in this way diphtheria got its start, and has spread with alarming rapidity, until it is agreed some drastic measures must be adopted to put a stop to its ravages or an epidemic of serious proportions will result. With the open receptacle, which does not circulate between the dairy and the consumer, each case of disease is likely to be isolated so far as the milk is concerned. In this case, even if the housewife does not scald her milk dish, it will make no difference. If there is disease in the family the dairyman's conscience will be easy, for he leaves pure milk, and has his own clean vessels for delivery.

As an objection to a compliance with such a rule on the dairyman's part, it is urged that milk taken from the can is not so rich as that delivered in bottles. The milkman does not mix the fluid in his cans more than superficially, and accordingly a few customers are supplied with very rich milk, while the large majority get very weak stuff.

The new measure does not contemplate doing away altogether with bottles, however, but is designed to keep them from circulating between dairyman and consumers. The milkman will be allowed to take a customer's milk in a bottle, but he must empty it into the consumer's vessel.

CAN THE PERCENTAGE OF FAT IN MILK BE LOWERED BY SCANTY FEEDING.

In the case of short periods (ten days to three weeks) the results of the experiments seem to be entirely consistent with the conclusion that scant feeding or the feeding of unbalanced rations exerts an entirely insignificant influence on the fat content of milk. The results of all these experiments which have come to my notice are summed up in the following conclusions of one such test:

The animals are fed for two weeks on rations which were insufficient. The cows lost in weight, and in some cases there was a slight shrinkage in yield of milk, but the composition remained practically unchanged, indicating that it is the flesh of the animals that first declines when the aliment is insufficient.

In the case of long continued, scantily, and poorly balanced feeding, it seems to be clearly established that the fat content of the milk may be materially reduced below the normal. This is illustrated by observation upon cows in Norrland. During the period from January to May, Norrland cows are in general fed only a meager allowance of marsh hay, and are therefore in a very poor condition when turned out to pasture in June. The results of about 2000 analyses for these periods of feeding show that on rich pasturage their milk carried from 2.65 to 5.8 per cent, with an average of 4 per cent, of butter fat, and that on scant stable feeding the milk carried from 1.10 to 4.6 per cent, with an average of 3.25 per cent of butter fat. In discussing these results, the author concludes that the fat content of milk can not be increased at will by increasing a normal ration, but, on the other hand, that it can be greatly decreased by scant and poor rations. If a change is made from a deficient to a normal ration, the fat content of the milk will again be raised to the limit determined by the inherent qualities of the individual cow. This point is more or less generally accepted and is of practical importance in the case of ordinary feeding only, as it indicates that cows may be below their normal for some reasons, and that a proper ration may apparently increase the percentage of fat, when in reality it is only bringing the animals up to their normal quality of milk.—Report Bureau of Animal Industry, 1902.

TO ENRICH PASTURES.

The dairying industry has come to stay—are the farmers prepared? asks Stock, Farm and Dairy. It must be admitted that without pastures dairying would be impossible. But there are pastures and pastures. Some are naturally rich, many are not; it remains therefore to the farmer to bring the poor pasture up to the standard of the rich pasture, and to prevent the good pasture from deteriorating. But what means shall be adopted? It is a well-established fact that pastures rich in fertility pay better than those which are poor. This is to be seen every day by the prices ruling for the different lands. Even virgin soil are not all of the same value; there are certain indications of fertility in a greater or less degree obvious to an ordinary passer by, but still more apparent to the dairy farmer. If therefore virgin land differs in value, too great a stress must not be placed upon the fact that the soil is virgin. Many agriculturists, however, when asked why they do not properly cultivate land that has already been cropped, point in glee to the virgin soil; soil that may lack in fertility absolutely.

The only way to prevent rich soil from going back is to return some of the plant foods withdrawn in the production of milk, stock, or produce. If these plant foods be not replaced, the rich soil will cease to be rich, and must eventually starve the farmer in return for his starving the soil. Inferior land can be enriched by the use of fertilizers. By enriching pastures a larger quantity of stock can be grazed on a small area than on a very much larger area of unfertilized land. A very simple means whereby fertility can be maintained without breaking up pastures is to use a fertilizer specially prepared for top dressing. Apply as a minimum 1 cwt. of such fertilizer to the acre, and lightly harrow it in; the fertilizer can be scattered broadcast by hand or by machines specially made for the purpose.

Growing crops intended for hay should be top-dressed at once. The results will prove conclusively that by the addition of feritlizers pastures and greed fodder crops will produce richer and more abundant yields. Manuring does pay, but is necessary to consult a well-known firm should information be required. Try 10 acres, and compare with 10 acres unmanured. The only regret will be that the whole lot had not been properly fertilized.

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...Hog Cholera Not Caused By Bacillus...

The Bureau of Animal Industry has just issued circular No. 41, devoted to a discussion of a form of hog cholera not caused by hog cholera bacillus. It appears that a course of investigation has been going on in the Bureau of Animal Industry which has led the experts engaged in the work to conclude that certain out breaks of what appeared to be hog cholera were in fact not that trouble at all, nor were they produced by swine-plague bacilli.

The disease resembles the old-time disastrous plague known to all farmers as hog cholera and is quite as contagious.

The report goes into an analysis of the symptoms which attend the atack and from which it appears that the period of incubation after exposure to sick animals, or after a subcutaneous inoculation of infectious material from sick animals, varies from five to twelve days, the usual time elapsing between exposure and visible signs of illness being seven days. The first symptoms noticed are that the pig is slightly indisposed; there is loss of appetite and listlessness, but as a rule nothing else on the first day. By the second day of visible illness the animal is usually very sick, hollow in flanks, and has a staggering gait. There may or may not be diarrhoea, and the feces are frequently blood stained. Almost with out exception the eyes are sore and the lids glued together. The symptoms just enumerated become gradually more pronounced until the death of the animal, which occurs as a rule within seven days after the appearance of the disease, and two weeks after the date of first exposure to infection.

The circular in conclusion says: "From the symptoms and lesions of the disease it will be seen that it is apparently identical in all particulars with the acute type of hog cholera, and that it is produced without the aid of the hog-cholera bacillus.

The fact that this particular type of hemorrhagic hog cholera is so similar in both symtoms and lesions to the ordinary hog cholera supposed to be caused by the hog-cholera bacillus, and that, by our methods of inoculation, without the presence of the hog-cholra bacillus, we have never produced a case of chronic hog cholera, have led us to suspect that possibly in all outbreaks of acute hog cholera there is some other agent besides the hog-cholera bacillus at work, and that in those cases of acute disease where the hog-cholera bacillus is found we have to do, not with a pure infection, but with a mixed infection by hog-cholera bacilli and the organisms which are responsible for the disease which we have just described. In fact, virulent hog-cholera bacilli have been isolated from hogs in which the disease had been produced by inoculation with infective material in which the absence of the bacilli had been proved by filtration, by cultures, and by the inoculation of rabbits or guinea pigs.

If such supposition is well founded it is quite evident what an important bearing it must have upon the prevention and treatment of hog cholera, and we hope to be able to decide this point positively when the experiments now under way have been completed.

Sufficient work has been done to show that this particular form of hog cholera may be prevented by those measures which have been found to be effective in dealing with ordinary forms of that disease—the isolation of sick animals and disinfection of all infected lots with carbolic acid and lime being sufficient to prevent a spread of the disease.

The question of special methods of treatment has been taken up and will be reported upon later."

CROPS FOR THE DAIRY FARM.

The dairyman must provide good milk-producing food for his cows every day in the year, very properly advises C. P. Goodrich, in the Prairie Farmer. They should have some succulent food—that is, food containing the natural juices of the forage plants. Corn will produce more cow food per acre than any other plant grown in the Middle West. So corn should constitute a large portion of the crops raised. A part of it should be put in a silo to preserve its succulence. Dry corn fodder is excellent food for milch cows, and some may be fed in connection with ensilage, as it helps to make a variety.

But corn as ensilage or dry cured is not, by itself, a perfect food for dairy cows; it does not contain much protein, and more protein they must have, if we are to get a good flow of milk. We ought, of course, to raise clover; every farmer ought to, to maintain the fertility of the soil. Clover is just about a balanced ration of itself; and it needs more protein to balance up the corn or ensilage. Clover hay contains about 7 per cent of digestible protein; but hay made from oats and peas contains over 9 per cent, so we ought to raise some of that kind of hay by sowing two bushels of peas to one of oats to an acre, and cut for hay when the peas are just fit for table use and before the oats have commenced to turn. But there is another crop that every dairyman who can, should raise, that is better than either of the other kinds of hay I have mentioned, and that is alfalfa. This contains 11 per cent of protein, which is amply sufficient by feeding say ten pounds of it, thirty pounds of corn ensilage, with some clover hay, oats and pea hay dry corn fodder by way of variety, to make a well balanced ration. Next to clover comes alfalfa, which is also rich as a cow feed.

When such coarse fodder is fed we can be entirely relieved from buying commercial foods to furnish protein. We can snap our fingers at the men who are selling bran at $20, gluten feed at $25 and all these high priced feeds, and say to them, "Keep your feeds we don't have to buy them." If there is not grain enough in the ensilage. we can make it up with cornmeal; and, if oats are not too high in price, we can have some of them ground to feed. In this way we can furnish our cows with a well-balanced ration, all raised on the farm. Until recently it has been thought that we could not grow alfalfa successfully. But it has now been found that with proper care and management in getting it started it can be grown anywhere that corn and clover will do well, if the permanent water line in the ground is not too near the surface. Water should be down three or four feet at least. I would advise every farmer to try at least a small piece of alfalfa next spring. Put it in a place where it will not interfere with the regular rotation of crops, for alfalfa, if one gets a good stand, can be left for many years and produce better three years after seeding than it will the second year.

The ground should be rich and well prepared, and the sowing done as early in the spring as it will do to work the land. Sow thirty pounds of good seed to the acre and sow it by itself—without any "nurse crop." Some weeds will, of course, grow up with the alfalfa. These should be clipped off with a mower in July. If there is only a light growth, it would be as well to leave it on the ground as a mulch. But if there is too large a growth to leave on the ground then it can be raked up and taken all for hay. There will be a great deal of alfalfa with the weeds, and stock can pick it over and get a great deal of good out of it.

I know of several pieces in Jefferson county, Wisconsin, that were treated in just this way, and the first of September they were again mowed and produced at this cutting fully 1½ tons to the acre of as fine alfalfa hay as I ever saw.

Alfalfa, after it gets a good set, can be cut three or four times a year. A year ago last summer, that fearfully dry season, I know of some that was cut four times, and the four cuttings yielded six tons to the acre.

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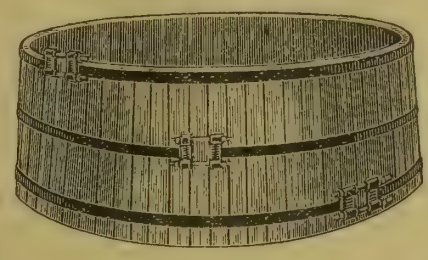

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

WOMAN'S WORK IN THE POULTRY YARD.

Hatching chickens either under a hen or in an incubator, is easy work in comparison to rearing them.

After the chicks are hatched I leave them for twenty-four hours in the incubator, some people advocate their being kept there without food or water for seventy-two hours, in order to allow the yolk of the egg (which is drawn into the chicken through the navel the last day of its life in the egg shell) to assimilate. This yolk stays in the chicken for about three days and if the chicken is chilled or overheated whilst the yolk is still undigested the yolk hardens, toughens like rubber, bowel trouble or blood poisoning comes and the chick dies between the third and the tenth day. The same trouble occurs, the hardening of the yolk, if the egg is chilled, or overheated the last few days in the incubator. A very clever surgeon, a friend of mine, cut some chicks open, took out the rubberlike egg, sewed them up and the chicks recovered.

When chicks are about twenty-four hours old I take them from the incubator, placing them in a basket well lined with flannel and covered with a flannel cloth to keep them warm during the short trip to the brooder. Many chicks take cold and lose their lives from being chilled on this journey.

The brooder should be warmed for at least six hours before this and heated to a temperature of 95 degrees. The floor covered with coarse sand. The first day the chicks should have nothing but sand to eat, then I scatter rolled breakfast oats on the sand, the white flakes instantly attract their attention and they pick them up—I also give them a fountain of water, and one of skimmed sweet milk, and it is surprising to see how quickly they will learn to eat and drink. In the evening I look in upon them, and am pleased when I see them spread over the hover floor; this indicates that they are comfortably warm, and that they will not crowd or huddle during the night. The first thing in the morning I give them some more rolled oats and chick feed. The chick feed I buy at the poultry supply stores; it is composed of a great variety of grains, with a little grit, dried blood and charcoal mixed in. This is their main food until they are eight or ten weeks of age. I feed them five times a day. When they are two weeks old they have a change for supper. I give them a feed of hard-boiled eggs, bread crumbs and onion, chopped fine, such as I feed the turkeys, or I vary this by giving them Johnny cake, or a crumbly mash of two parts bran and one part corn meal scalded. This is their last meal in the day, and I give them all they can eat, sending them to bed with their little crops full. I keep a thermometer under the hover in the brooder and lower it one degree a day till it is down to 65 degrees. After they are six weeks old, except in the coldest weather, they require no heat.

I give the little chicks plenty of green food, usually lettuce, at least twice a day, alternating it with the chick food; they very early learn to tear the lettuce to pieces if hung up on a string. I give them fresh water each time they are fed, the first feed is at 6 or 6:30 a. m., and if I fear that I may be later than that I put fresh feed and water in their run over night, so that the hungry babies may not be kept waiting. They come out at day break, eat a little, and sometimes drink, and then go back and take another nap.

The brooders must be cleaned twice a week the first week, three times a week afterwards and everey day when the chicks grow larger.

There should not be more than fifty chicks in a brooder, and twenty-five is a better number; they will grow faster and be much stronger if they have plenty of room. For the first four or five days I keep them in the brooder house, after that I let them out on the ground. I keep their little yards well spaded up and plant barley or wheat in them several times during the season, so they will have something to scratch for, and when the yards are not in use I keep crops growing in them to renew and freshen the soil.

When I want to keep the chicks for breeders I feed them dry food, dry chick feed and rolled oats; or if I do not have chick feed I mix equal parts of wheat, cracked corn, rolled oats and Kaffir corn, feed it dry, and give them only one soft feed a day, and that at night. But when I want to force them for broilers, I give then three times a day the following mash after they are five or six weeks old—one part bran, one part rolled oats, one part corn meal mixed with skim milk to a crumbly mash. I add a little pepper, salt and charcoal to this besides leaving charcoal and grit always before them. I feed them of this mash what they will eat up in 20 minutes, removing any that is left at that time; the object is to keep them a little hungry; if they do not seem hungry at the next meal I skip one meal and they will be eager for their feed when next I come round. The chicks should be dusted with insect powder about once a week. To do this I have a tin box (baking powder can) with a perforated cover—put insect powder into it, and after dark raise the hover and sprinkle powder over the chicks; this will usually keep them free from lice, but should the lice once get in, the chicks will have to be greased on their heads and on their throats, just under their chin.

With this system of feeding and the close attention I give my chickens, they will average 2 lbs. in weight at two months, and will gain at least one pound or more each month, making fine roasters at four or five months.

* * *

ANSWERS TO QUESTIONS.

Mrs. Basley: Through the columns of the Cultivator, will you tell me what to feed my Plymouth Rock pullets, now six months old, to force them to lay? Also the quantity for ten pullets? These questions are vexatious ones to me. My fowls have access to plenty of green alfalfa—does that fill the bill in regard to green food?—Mrs. Eva Reardon, Santa Ana, Cal.

I never force a pullet to lay, as I prefer them to develop large healthy frames, and, properly cared for, they will lay at six months, if they are in good health, without forcing. "Lee's Egg Maker" is the best egg maker I know of; directions on each package. A hen of the American breed requires about six ounces of food per day, that is weighed dry. Green alfalfa "fills the bill" in regard to green food if they have all they require.

A sandy, dry soil is best for poultry, as such soils, if very porous, will be cleaned by the rains carrying down the filth into the soil, and because there is less mud and dampness in winter, says P. H. Jacobs. Nearly all of the large duck farms are on sandy soil, and as the use of such soil for the raising of poultry is profitable, there should be an opportunity for those who have farms composed of light soil that cannot be made to pay otherwise, to devote themselves to poultry, especially if near markets that can be conveniently reached.

Chickens need a dry, airy place in which to live, and plenty of exercise to keep them healthy, as much as you do. See that they have it, if you want to keep them healthy and free from disease.

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DOCTORING POULTRY.

The average poultryman should be very careful of the medicine with which he doses his flock, as sometimes the medicine is as bad as the disease. The cheapest and best medicine we have been able to get is ordinary plastering lime; it sells for $1 per barrel in our town, and a little of it goes a long way and does lots of good while it is going. I have not had any cholera on my place for six years, and I attribute the general good health of my fowls to a liberal use of lime. Some of the good uses I have found for it are as follows:

When I see signs of soiled feathers I throw a little lime in their drinking water, it seems to be a good regulator.

It is a good disinfectant, and after cleaning the dropping board, throw a handful down; it is wonderful how lime will kill all bad odors.

Use lime mixed in the dust box, the lice won't loaf around there much. I notice they won't make many steps in lime until their relations send for the undertaker.

When one of your hens gets ready to take the regulation three weeks lay off, throw some lime in each corner of her nest. Some lime thrown down around outbuildings will dry up the wet places.

When your hens are laying soft shell eggs throw lime where they can get it. I have seen lime water stop a threatened case of cholera in good shape.

Lime dust is sure death to all garden bugs, and nearly all preparations for fruit spraying purposes contain lime, in fact, lime will serve the purpose wherever you put it, and it works while you sleep.

Horses, hogs and cattle are also benefited sometimes by a little lime sprinkled in their feed or water. For wire cuts and running sores on animals, air slacked lime is like a hard boiled egg—hard to beat.

After you have whitewashed your hennery then mix some lime with sand and when set, break it up. Old mortar is a great appetizer for chickens. I fed my hens some and while they were picking at it my neighbor's hens looked through the fence and I could almost hear them grit their teeth with envy. So buy you a barrel of lime and every two or three days throw some in each corner of the henhouse. The membership is open to the lime kiln club and when you wear out a whitewash brush, buy another and some day your chickens will raise up and call you blessed.—Brice Haynes in Poultry Success.

HEALTH IN FOWLS.

The general surroundings are what you want to look after to make the poultry business a success. One ounce of prevention is worth many pounds of cure. We all know that the sound, active, vigorous and healthy fowl is seldom attacked by disease. Until the less hardy fowls of the flock have gone under, a sound constitution is the best safeguard against disease. The preparation for physical soundness must begin with the grand parents.

Breed for health just as carefully, or more so, than for fancy, or practical points. Never allow an ailing fowl, or one that has had serious illness in your breeding yards. Breed only birds of sound and healthy parents. When you get healthy birds, keep them so. Use lots of air-slacked lime about your poultry quarters. Use common sense methods in caring for your birds. Don't crowd them in a tight, close coop. Give them plenty of ventilation from the top. In the fall thousands of ordinarily healthy fowls develop colds and start on the road to roup and death through the lack of common sense on the part of their owners who shut them up so tightly at night in a close crowded house or coop. Birds that have been accustomed to plenty of air at night in open front roosting coops are almost certain to come to grief if shut in too close at night in the early fall.

The drinking water is a fruitful source of disease. Germs are easily conveyed from one fowl to another. Drinking dishes must be kept clean and be refilled with pure fresh water. Earthen ware water dishes are cheap and are very easy to keep clean. Avoid dampness, unclean quarters with an accumulation of foul droppings.

Keep your poultry quarters clean and dry. Keep crushed bone and oyster shells where the chickens can get them. They must have some kind of grit to grind their food. Oyster shells is the best grit to get for poultry. Crushed bone is fine for young growing chickens.—Jesse Latshaw in Northwest Horticulturist.

Like milk, an egg is complete food, says Farm and Fireside. If fed on eggs alone, young animals are furnished with all the necessary elements for the growing of bone, muscle and all that goes to make a perfect animal of its kind. A hen can possibly lay 200 eggs in a year, but ought certainly to produce 120. Eight eggs will weigh a pound.

Entirely too many do not consider how necessary it is to give continual vigilance to poultry culture if they wish to be successful. This is the cost that must be put into the business or failure is sure to follow your endeavor to raise poultry without it.

Take time to watch the lamp flame so as to be able to judge how large it should be when the temperature is about right. Then you can set it so the heat will not become too great or not enough, within a few degrees. The regulator will do the rest.—Farm and Ranch.

If your chicks are suffering with bowel trouble, it is an indication of lack of warmth. Attend to the matter or you will lose your chicks.

If eggs become rotten it is absolute proof that they were fertilized, that the germ of life started and then died.

The more nearly the roosting house comes to being actually clean, the less will be the liability to disease among the chickens.—Fancier.

As a rule a hen that has proved to be a good layer and mother this year will prove more so next season.

The man who cannot make a dozen hens pay a fair profit will rarely succeed with a larger number.

If the hens have stopped laying, an entire change of food will often start them laying again.

If the hen gets too fat, one of the best remedies is plenty of exercise, and the more active the fowl the less danger on this score.

The Cultivator, a few weeks ago, made mention of a prolific hen owned by Wm. Posthill near Livermore, that laid sixty-three eggs in forty-four days. The truthfulness of the statement was questioned. Now Mr. Posthill offers to make an affidavit that the statement is correct. He says the record began June 4th and ended July 29th. The hen is a plymouth Rock—is a pet and kept separate from the other fowls.

ROUP and CHOLERA

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Ask your nearest dealer for them and take no imitations.
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WHITE PLYMOUTH ROCKS and INDIAN RUNNER DRAKES

On account of the health of a relative I wish to sell my home, "The White Plume Ranch," one and one-half acres of land, between Los Angeles and Hollywood, with the good will of the business, prize winning fowls, ducks, turkeys. It is income-making property. Apply on the premises.

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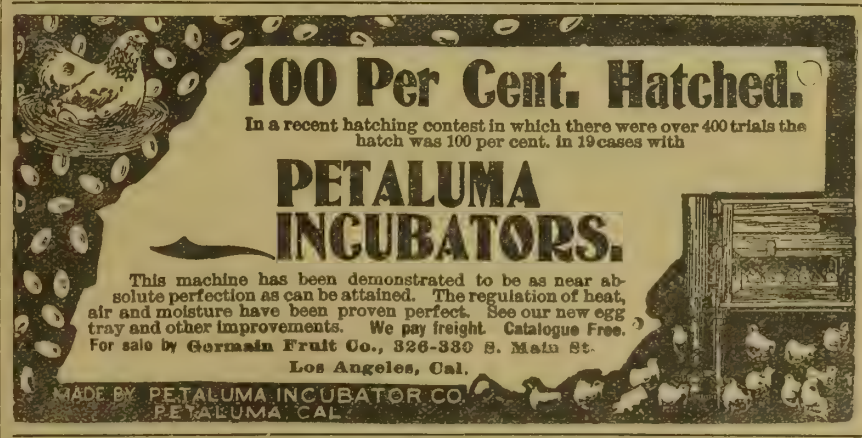
(Take Colgrove Car) Alma St. Prospect Park, Cal.



When writing to Advertisers Please mention Cultivator

Protection From Frost.

(Continued from first page)

his own orchard was due to the fact that it had not been frosted. At any rate it was an argument in favor of the value of oil pots.

As to the relation of wind-breaks to frost, there is again some diversity of opinion; but I think that the concurrent view may be summed up in the words of Mr. Koethen, of Riverside, that if at right angles to the flow of cold air, a wind-break is injurious to the ranch above; otherwise beneficial. Mr. Hofman, of Cucamonga, made some interesting observations in this use of a set of self-registering thermometers he established the fact that on a clear cold night, when no firing was done, the temperature at the foot of his grove immediately north of a wind-break, was 6 deg. lower than at the upper side of his orchard, just south of a wind-break. On the nights when he fired, the temperature was the same at the two points, showing apparently that the retention of the smoke and heated air fully overcame the damming up of the cold air.

My own observation is that an east and west line protects the trees for a distance of not more than ten or twelve rows (200-250 feet) to the south, and as far to the north as the shade of the wind-break extends. A north and south line will protect trees to west for the distance it casts its shade.

My own experience with frost during the season was not a satisfactory one. I used oil pots, one to each two trees, or 54 to the acre. The conditions during the day preceding the severe cold were such as to lead me to expect a very low temperature; a light rain had fallen, and the snow lay low on the foot hills. My elevation of something like 1800 feet brought the snow very near me. A heavy north wind had been blowing down the Cajon Pass and over the country east of my place all day. At sunset the mercury was below 40 deg. Under such conditions a severe freeze may be foretold with certainty. There was just one chance of escape, and that was that the north wind would continue to blow and extend far enough to include my place in its path. It did blow all night to the east of me and to this fact undoubtedly a large section of country owes its escape from a killing freeze, and in those sections where it blew only at intervals, and where firing was resorted to, their more fortunate escape is due probably as much to the occasional gusts of wind than to the oil pots. At my own place I think not a leaf stirred during the night. The mercury was below 32 deg. at 9 o'clock, and at 27 deg before 11. At this stage I lighted the fires. It should have been done sooner, but I saw that the oil in the pots would burn out before morning. As it was, I found it necessary to replenish the pots. When the fires were lighted the heat from them brought the temperature up one or two degrees, but the increasing cold forced it down again, and it went to 27, 26, 25 deg. and for an hour or two stood at 24 deg. Thermometers on adjacent places where there were no fires, marked 22 deg. The lemons were practically all destroyed and young growth on the trees killed. Apparently the oil pots had done me no good. However, succeeding days showed that my trees were injured less than in orchards where there had been no fires, and today, after having removed a small amount of dead brush, my trees are thrifty, and show no signs of the frost. They have set, however, very little fruit. I saved the trees, but that is not enough; I do not care to grow trees unless they bear fruit.

In the light of present knowledge may we hope to protect our fruit against the cold? The testimony is undoubtedly to the effect that we can do so. The experience of W. S. Palmer of Upland is valuable. In a small, isolated lemon grove, by the use of one basket to each tree, on a night when the mercury was as low as 22 deg. for several hours, he saved 90 to 98 per cent. of his grown lemons. The careful experiments of the Riverside growers and their success in protecting their orange crops, warrants the conclusion that effective measures may be taken. The testimony of Mr. Teague, of the Limoneira ranch is especially favorable. In reply to the question "Can we, in your judgment, by using protectives against frost, successfully grow lemons in places where the temperature at times of severe cold reaches 22 deg.?" he says: "We have been doing so for the past three years." The strongest testimony that I can give for the efficacy of frost protection was our experience of last year. We have 1000 baskets on the Limoneira ranch, running up a little above the cold line which was established during the cold winter of four years ago, above that point we have no coal baskets, and, after the freeze of last winter practically the only damage we received was on the land above the coal baskets, and there was a distinct line clear across the ranch, there being much less damage on the coldest land which we have than on the higher land which has heretofore been free from frost." It is to be noted that the most satisfactory results have been attained where the work was done on a large scale, as in the case of Mr. Teague, with his 10,000 baskets, or in a compactly settled place like Riverside, where, although it may be that not all of the growers fire, still the number of fires is great. I am convinced that the small grower with an isolated grove can not secure such results, or indeed satisfactory results at all, without the use of a large number of baskets per acre, not less than 100 per acre, or it may even be, as one of my neighbors suggested during the cold of last winter, that we needed four oil pots to each tree, one for each side, north, south, east and west.

At any rate we cannot afford to quit fighting. I believe it was Joe Manley, of Maine, who remarked, "God Almighty hates a quitter," and there is too much at stake. It goes without saying that a grove that is thrifty and vigorous will stand the cold better than one that is enfeebled by lack of water, fertilization or cultivation during preceding summers. The more nearly dormant the tree is the greater its chance of safety. A lemon tree should not be pruned late in the season, for the new growth will surely be cut back by the frost, and besides, we need all the branches the tree had to protect the fruit. If a head of irrigating water can be had during the cold night it will be of value.

The lighting of numerous small fires through the orchard is the remedy as yet found most effectual. The benefit derived from them I am sure comes not altogether from the amount of heat they produce, but partly from the movement of the air produced, and largely from the covering of smoke that soon after lighting the fires hangs over the grove, preventing radiation. On account of the far greater ease with which the oil pots may be handled, easily replenished, rapidly lighted even after a rain, and also because of the greater amount of heat and smoke they produce, oil pots would be preferable, were it not for the danger of smutting the fruit. Probably the plan adopted by J. W. Freeman, of Ontario, is a good one, baskets through the grove, with a row of oil pots along the upper side of his orchard. Frank Palmer has used and recommends a bricquette of asphalt, oil and sawdust. The owner of a small, detached grove, whose neighbors are not co-operating, will need to provide liberally, I think not fewer than 100 to the acre, and double the number it is expected to burn should be provided, or arrange made to replenish the fire during the night, and this is hardly practicable. We should be in the position that when freezing water and stiffening leaves indicate the beginning of the freezing process, the fires may be lighted without fear that they will be burned out before morning, when the cold is ordinarily most severe. We can not hope for the greatest good from the fires if the fruit is already damaged when they are lighted. The fires should be burned till 8 o'clock or 9 o'clock in the morning, and should be so managed after daylight as to secure the greatest possible degree of smudge, this, of course, to protect from the early morning rays of the sun. Indeed, I am persuaded that if it were possible to effectually screen the grove on the day following a severe freeze, the damage would be greatly lessened. This leads to the inquiry if such a plan may not be practicable, at least for the lemon growers. With this thought in view, a number of the Ontario growers visited the Everest ranch in Riverside, to study the effect of the lath covering that is over that orange grove. Their observation led them to believe that as a protection against frost it is effectual. Some doubt exists as to the effect of the covering upon trees and fruit. The orchard did not seem to be in the thrifty, vigorous condition that the Riverside groves usually possess, and the fruit, both in quality and quantity, was hardly up to the standard. But with the lemon, the conditions are different. Our best fruit is grown in the shade, and if the tree will not thrive under such covering I believe it may be found possible to remove it during the summer. A gentleman at Upland is now devising a covering similar to that over the Everest groves, but with the covering to consist of light laths, woven with wire, and so arranged that all of it or a portion of it may be readily rolled up, giving the trees free sunlight if needed. As a protection against frost I believe it would be entirely effectual, and at the same time possesses other advantages. If it may be allowed to remain during the summer it would lessen the amount of irrigation and cultivation needed, and during the year the protection it would afford against the wind would largely improve the grade of the fruit. If used in sufficient quantity to justify him in establishing a plant for its manufacture, the gentleman estimates that he can place it over a grove at a cost of $300 to $350 per acre. While the cost is great, it should not be prohibitive. I know growers whose loss by the freeze during the winter was greater. Some of us think enough of the scheme to plan to co-operate in covering a few acres, and test the method.

California Citrus Interests.

(Continued from first page.)

fornia crop. The orchards are much more scattered, and the shipments are to a great extent in small lots, so that no trustworthy figures are obtainable. Enough, however, is known to show that we shall have quite considerable competition from that source. This fruit will be marketed almost entirely between now and the first of March, so that it is for the most part out of the way before the active shipping season begins with us. This Florida fruit has a distinct advantage over us in the great seaboard markets, such as Philadelphia, New York and Boston, and even in the interior as far west as the Mississippi valley, because their freight rate is much less than ours. This side of the Mississippi their rate is about the same as ours. There is every reason to believe that the product of the Florida orchards will increase from year to year so that in the course of a few years they may be expected to produce as much fruit as before the freeze, which was approximately 5,000,000 boxes. The competition from abroad is not of a serious character, so long as we are protected by the existing duty of one cent a pound. Very considerable quantities of oranges come to our shores from Jamaica, but these arrivals are chiefly between September and January, so that they are not seriously in our way. The same is true of limited quantities coming from Cuba and Porto Rico. What the future has in store for us from the islands remains to be seen. If the pending reciprocity treaty with Cuba should be ratified, it will surely give encouragement to growers of citrus fruits on that island, and prove more or less of a menace to California. It is hoped, therefore, that the treaty will fail of ratification, and California should certainly bestir itself to prevent the ratification.

* * *

The Citrus Fruit Industry.—You people, it seems to me, have a proper appreciation of the importance of the citrus fruit industry to this country. It is not extravagant to estimate that the crop now on our trees will bring into Southern California over and above freight charges, $10,000,000.

This is a very conservative estimate. A sum of money of this kind is of vast importance to this region. We shall probably have to calculate on lower prices, and at no distant day upon a lower freight rate. It is hard to say just when we shall be able to prevail upon the carriers on this point, but it must come sooner or later. With a lower level of prices, there must be economy in handling at every point. There must also be the widest possible introduction of our fruits into all markets. The California Fruit Agency, which will probably handle at least eighty-five per cent of the crop now growing, undertakes to reach every market available, not only in this country, but abroad, having established its agency in Europe and also seeking outlets into Australia and Asia. We have forty offices in the cities of the United States east of the mountains engaged entirely in the marketing of California citrus fruits, and it will be our constant study to find new markets, and to create new demands wherever it is possible to do so. While our problem grows more difficult, with the increasing quantity of our oranges, it is correspondingly difficult by reason of the insufficiency of our lemons. If we had more lemons, we should market them to better advantage than we do now. California produces less than one-third of the lemons required in the country, consequently we are continually menaced by importations. We introduce our lemons into the markets and make a place for them, and then are not able to supply sufficient quantities to keep out the foreign product, so we are in a constant struggle with our competition. The California lemons are superior to anything else produced in the world, and are preferred wherever they have been introduced, so that, in my judgment, when our orchards are producing more lemons, we shall find less difficulty in marketing them advantageously.

Withal, I see nothing to indicate that our orchards are not to be continuously profitable, although it is certain to be to some extent a survival of the fittest.

A. H. NAFTZGER.

HOW DOES IT SEEM TO YOU?

It seems to me I'd like to go
Where bells don't ring nor whistles blow,
Nor clocks don't strike, nor gongs don't sound,
And I'd have stillness all around.

Not real stillness, but just the trees'
Low whisperings, or the hum of bees,
Or brooks' faint babbling over stones
In strangely, softly tangled tones.

Or maybe a cricket or katydid,
Or the songs of birds in the hedges hid,
Or just some such sweet sounds as these
To fill a tired heart with ease.

If 'tweren't for the sight and sound and smell,
I'd like a city pretty well,
But when it comes to getting rest
I like the country lots the best.

Sometimes it seems to be I must
Just quit the city's din and dust
And get out where the sky is blue,
And, say, now, how does it seem to you?
—Eugene Field.

Pardoned, or Grip the Miser.

(Original.)

He was known among his acquaintances as "the Miser," or "Johnny Grip," because he loaned money at extortionate rates to the poor and compelled payment to the last farthing under all circumstances.

His home was a dingy office in an extensive old rookery on a prominent street of Philadelphia.

The building was filled with odds and ends of all sorts of humanity except those in the enjoyment of plenty.

The angels, the bright stars, the winter winds and drifting, inquisitive snow, that sifts through open windows, broken walls, rifts, rents, cracks and crannies, to the desolate abode of poverty, knows how poor and Godforsaken man can be and still live.

But the poorest among the miser's tenants had plenty compared with what he gave himself.

What a miserable place that office was! A rollicking drunken old desk, supported on three legs and braced against the wall to make it stand, was surrounded with pigeon-holes from which numerous apertures protruded dusty, dirty old papers, like tongues from the lips of the strangled.

There was a broken chair, a broken stove, a little fuel, and a time-worn old lounge with inside gone; a greasy headrest; two worn blankets and some fragments of old clothes, completed the furniture, excepting only a huge square, rusty antique iron safe, with a very determined appearance, much like the miser himself.

Nothing but "Johnny Grip" and that relentless old safe could dwell in such quarters and hold on to life.

Johnny said to the safe, "I'll get," and the safe said to Johnny, "I'll keep," and for more than fifty years the compact was faithfully kept.

The money that came to that safe was wet with tears and loaded with supplications and curses; but the safe complained not and "Grip" never mentioned it.

What friends they were and how constant and true to each other.

The pale face floating in the river, the disfigured dead of the morgue, the frozen mother and babe of the "attic" bore silent but fearful testimony.

"Ah, well," said Grip, "they must die sometime and its better they kill themselves and get out of their misery."

The world's a ship on short allowance, and the more dead, the more food for the remainder.

But for me they'd died before, but they live to curse me and take to the water later on.

The water way is respectable, no long sickness, and now and then one gets in with his boots on—same as a gentleman.

There's the key to the cause.

Nothing but extravagance.

None of mine are found in boots, especially good whole boots. I let them keep them 'til the last thing, out of mercy, so they can get to the brokers and back without freezing their feet.

Women, 'specially with babies, can't stand the cold ground without something on their feet.

When one of them brings her shoes, I says to the safe, "that's the last of her," and generally there's an inquest a day or two later.

Whiskey sends many a man to water at last, but milk is the ruin of women with babies.

They're just gone on it when they're the nearest starving.

If they'd let go the young one and drink the milk themselves, but they won't. So willful like they goes without bread to get milk for the brat, and both dies and there's the end.

So I say milk's their ruin.

My motto is, where one of two must die, let the other man have the honor.

I've tried many times to advise mothers that way, but what's the use? They fall to crying and go on to the end in their own way.

There was that young creature up stairs, whose husband was killed at the big fire trying to save a poor devil from burning.

There was something in her hair and eyes 'at made me think of other days. 'Specially her hair, which was light.

She was such a little thing, and was sick a good deal.

After the first month she paid me no rent, and I didn't ask her. I didn't need fire, but nights she'd come to the office and shiver and hold onto the babe 'til out of mercy I'd build one, tho' I knew it was wasting money.

Then she'd get over it and hold the baby down close where it could warm, never seeming to think of herself.

At last she got on to the milk racket and I tried to advise her, but it did no good. There was a look came into her eyes and a gray tint to her face and she offered her shawl and I paid her, her own price.

She didn't buy milk though, this time, it was charcoal—she and the baby side by side and the white ashes of the charcoal in an open pan, explained matters to the coroner.

She saw the end of milk, took charcoal, and quit; but milk was the cause for all that.

They say I'm without mercy, have no charity, and call me 'Grip the Miser,' forgetting that mercy costs money and so too does charity; and that the world is full of poor; that if I gave my all, it would go no farther to end the misery than a drop of hot water toward warming the sea.

So I says to the safe, we'll draw the line at the beginning, rather than at the end, for as long as there is human folly, there'll be human woe, and we can't stop it.

I set an example of economy, which if followed by the world, not a pocket in it but would carry the price of food.

I eat crusts and garbage, dress poorly, go without fire, sleep cold, to prevent starvation at the end.

These poor dine on plenty until a rough place is reached and think that the mouthfuls saved by men, one at a time, should be given to them, and if they starve paying me for a loan or go to the river and end it quick, it is said 'Old Grip' sent them there.

I wish sometimes I had helped the little mother with the blue eyes and light hair, even if she got milk for the little one; for she wasn't to blame, like most of them—but—I couldn't bear to take from the safe or have it know I was weak.

I made her warm though when the world left her cold, and I gave her a roof when she was homeless."

* * *

It was a bright spring morning and the air was full of song and the odor of lilacs.

Curious people were passing in and

Dependable Furniture at a Fair Price

WEATHERED OAK

Odd Pieces for Den, Library and Hall

We have an unusual display of Old Mission Furniture in this splendid finish. These pieces were manufactured by Gustav E. Stickley, the originator of the modern mission styles, and they are without question the finest pieces of the kind ever shown here. Every joint is made to fit perfectly and is mortised and pinned in such a way that it can never come loose. Every part of this furniturs, even the handles and nails, are made entirely by hand by the most skilled workmen. We would like you to see this assortment while the line is still intact.

Niles Pease Furniture Co.

439-441-443 South Spring St., Los Angeles.

"The Quality Store."

For Fall Suits and Stylish Top Coats

Visit the Clothing Headquarters at the corner of First and Spring Streets

We have just what you want

Mail Orders satisfactorily filled. Self-measurement blanks free upon application.

Largest Assortment, Newest Patterns, Best Tailoring, Values that no other house on the Pacific Coast can Duplicate.

FALL SUITS, $10 TO $40
TOP COATS, $10 TO $42.50

Mullen & Bluett Clothing Co.

FIRST AND SPRING LOS ANGELES, CAL.

out of that dingy little office.

The writer passed in with others and saw sitting at the old desk the dead body of "Grip the Miser."

A thin old man, poorly clad, sitting there with long gray hair falling about his shoulders was nothing, for I had often seen him in that place, in that same position, day after day, for many years; but sitting there dead was quite another thing.

All cupidity, all cunning, all avarice had passed from the face of "Grip", leaving behind simply an aged man frozen in death.

In front of him on that tottering old desk, in the midst of the wretched squalor that seemed multiplied a thousand fold by the presence of the dead, rested a jeweled golden casket so artistic in design, so rich in setting that it seemed rather the thing of a dream than an actual fact.

Besides the velvet lining there was at the bottom the softest down, on which rested a worn, soiled old letter, whose faded writing was in a girlish hand, and bore date fifty-two years before that very day.

It was addressed to James Gripp, Esq., and commenced with "Darling Jamie," and referred to a preceding Sunday when they were in the forest gathering wood violets, and of his kindness to her mother in the time of her trouble, for which she prayed blessings on his dear head; and the eagerness which she was waiting the near approach of their own marriage; of friends, naming them, that would be there; with expressions of love and loyalty to her "Darling Jamie," etc., etc., ending with your wife that is to be, your own Jennie.

In the old man's hand, twining about his fingers, was a long flaxen curl and on the lashes of his half open eyes were tears not yet fallen away.

Who, from these evidences, could not read the pathetic story of a perverted life, knows not the quality of the human heart.

As I stood there the mists and shadows of fifty-two years passed away, and I saw green fields bright in the golden sun and verdant forests melodious with the songs of wild birds.

The Hyancinths and Jonquils were in bloom and the perfume of flowers and odors of spring permeated the air.

Farm houses, blooming orchards, meadows and winding streams filled the landscape.

Within the forest was a radiant maiden with eyes blue as the sky, hair yellow as the golden sun, cheeks and lips rosy, her form robed in white, with wood violets pinned at her throat.

Another figure was there, that of a youth with beardless cheek, swarthy from the sun; a bright eye, firm chin, and a face full of generous impulses.

Love light filled their eyes and with hand clasped they talked of their love; of the beckoning future, wherein they built home and all things they hoped for.

They saw countless springtimes come and go, and so too the golden harvest ever bringing them the sheaves of plenty, and side by side thro' the rolling years they saw themselves toiling and loving thro' sunshine and shadow until lost in the misty horizon of that far away future they could dream no farther.

Then I saw a pallid form with waxen hands folded over a still heart, with eyelids resting upon frozen cheeks and yellow hair that curled over a smooth white brow, wherein dreams and hopes alike were silent forever.

Death breathed but once on rosy cheeks and that radiant form was gleaming marble.

Then an abyss of yawning blackness between the dead then, and the dead now, wherein that youth was plunged, and through which cold and hungry, he struggled, seeing nothing but misery, until his heart hardened against the pleadings of sympathy, and he grew morose and cynical, and the tears dried in his heart and charity faded from his soul until at last, when the years had bleached his hair to silver and shriveled his flesh and plowed and furrowed his cheeks like corrugated parchment; with no fire to warm his blood and rags only, to keep out the chill. Death smote him hard and quick and the miser was no more.

But through all that black abyss, that awful night between death and death, thro' mire of avarice and the slough of greed, tearing food from his mouth to make it turn to coin, freezing his flesh to give gold to the safe, he wore upon his breast the gleaming star of love, and around it he built walls of gold, glistening with precious stones, and amid silken canopies on a bed of down, a school girl's scrawl and a lock of golden hair formed the altar whereat "Johnny" Gripp in life and in death ever came to worship.

Reading this we pushed the gray hair back from the stiffened face and brushed the tears from the sightless eyes, and gently, oh so gently, laid him back; his pallid hands upon his breast with that lock of hair in loving tenderness twining among the bony fingers. And on the tablet of memory, written under the name of "Grip the Miser" finds the words—"Pardoned", because he loved.—Carra De Puy Henley.

Recipes...

Children's Sponge Cake.—Three large eggs, beat one three minutes; add cupful and a half of sugar and beat five minutes; add two tablespoonfuls of cold water, one teaspoonful vanilla, a pinch of salt, and one cupful and a quarter of flour, measured before sifting and one rounding teaspoonful baking powder. Beat all thoroughly before placing in pan. The proportion of flour will vary a little according to the size of the eggs. Bake in a moderate oven.

Green Grape Jelly.—The wild or fox grapes are to be used for this. Gather them before they are fully ripe, stem them, and heat slowly in the preserving kettle, stirring and mashing thoroughly; place a large piece of cheese cloth in a sieve, on the top of a large bowl. Let this drip for an hour, then remove and pour off the clear part of the juice. To every pint of this add a pint of sugar, boiling for twenty minutes and skimming often. Very nice with cold meats.

Grape Juice Tonic.—Wash the grapes and pick from the stems. Weigh them, and to every five pounds add one quart of water. Cook in a porcelain kettle, and, when soft, strain through a fine sieve. Return to the kettle, adding two pounds of sugar. Let it boil up once, skimming if necessary, then can at once.

Frosted Grapes.—Choose sound, perfect fruit, wash and drain it. Dissolve a very little gum arabic in warm water and add to it the beaten whites of eggs, of which there must be sufficient for the quantity of grapes you wish to frost. Dip them in this, then roll them in fine granulated or powdered sugar. If the grapes become damp, dust them again with sugar just before serving.

Baked Green Peppers.—Scrape out the seeds and stew the peppers gently in salted water until tender. Drain them and fill with a mixture of bread crumbs and the outer portions of tomatoes coarsely chopped, about two-thirds crumbs and one-third tomatoes, seasoned with onions, butter, pepper and salt, and just moistened with beaten egg. Put into a pan with a little soup stock, and bake slowly half an hour, basting often.

Cranberry Tapioca.—Soak a cupful of tapioca in cold water over night and next morning cook it in a quart of boiling water until it is a clear thick jelly. Then add a quart of cranberries, stewed soft with two cups of sugar and rubbed through a coarse sieve. Turn into a mold and serve when very cold with whipped cream.

Cranberry Charlottes.—Line small molds with very thin slices of white cake; fill the molds with cranberry jam or jelly and set in a cold place. Turn out to serve and heap whipped cream over them.

Cranberryade.—Take two-thirds of a pint of washed and selected berries, and one cup of cold water and mash the berries to a pulp. Cook a large teaspoonful of oatmeal in two quarts of water, adding a slice of lemon; when thoroughly cooked strain, add the cranberries and sweeten to taste. Boil again half an hour and strain.

Cranberry Filling for Cake.—A rich cranberry jelly makes a nice filling for a white layer cake. The icing used may be colored a delicate pink with a little of the juice.

A WOMAN'S HOUR.

"Please state to the court exactly what you did between 7 and 9 o'clock on Wednesday morning," said a lawyer to a delicate-looking little woman on the witness stand.

"Well," she said, after a moment's reflection, "I washed my two children and got them ready for school, and sewed a button on Johnny's coat, and mended a rent in Nellie's dress. Then I tidied up my sitting-room and watered my house-plants and glanced over the morning paper. Then I dusted my parlor and set things to rights in it, and washed the lamp chimney and combed my baby's hair and sewed a button on one of her little shoes and then I swept out the front entry, and brushed and put away the children's Sunday clothes and wrote a note to Johnny's teacher asking her to excuse him for not being at school on Friday. Then I fed my canary bird and gave the groceryman an order, and swept off the back porch, and then I sat down and rested a few minutes before the clock struck 9. That's all.

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The Rural Home...

Nature is a master artist that blends tones perfectly, how rarely does mankind consider her balanced color scheme, when he intrudes upon the restful harmony which buildings painted in colors that are at strife with the surroundings.

The coloring of the house is important—if on a small suburban lot, white or light yellow is attractive and fits in with the formal garden, planted as a matter of show. The house of the artist, Mr. Delongpre at Hollywood is an excellent example of color and of the refinement that a house receives when it is set as the principal ornament with the flowers, lawns and trees subordinate and used as a color frame. the ivy geranium in pink and the purple heliotrope frame this cream tinted house, while the lace like stucco of the window and door cornices suggest the delicacy of the outlines of the tree tops against the sky.

Now, in the rural ranch house we have the reverse of this picture, the garden is the jewel and the house is the accident, therefore, the buildings are painted a subdued color to tone in and not contrast with the garden it is more harmonious, cover it with vines —making it a hill of green. Few roses of the everblooming type do well when trained against the house, the Lamathae, Banksias, and the prairie roses are good in this position but are only annual bloomers, the wisterias in lavender, purple, white and pink are desirable but should be carefully pruned in July and the rampant growth kept well in hand or the outside growth will choke the inside stem. Honeysuckle and clematis are uncertain, sometimes doing well for years, and then dying without the cause being apparent.

Carrying out the idea that the ranch house is part of the garden, fill the steps and edges of the piazza with plants growing in jardiniers. The eastern florists sends out cheap collections of plants that affords a world of pleasure to watch them grow and next year they can be planted out in the garden and a new series take their place. The seedling palms that spring up along the roadsides, will fill some pots to stand on the steps and in very hot places, these only costing the labor of digging. When pruning, plant a lot of cuttings and when you see some woman struggling to make a garden take her thirty or forty of the little plants, you will enjoy the beauty of the bloom as you drive by her home.

The ranch garden is to be viewed from the house, not from the road, therefore the vistas should lead from the house not to it. Then the views from the upstairs windows are to be considered, for illness will come, and it is hope inspiring to look from the weariness of a sick room into the varied green and forms of the growth of shrubs and palms. The Japanese have caught the idea of the beauty of tree form, when seen from above, but instead of lifting themselves above the garden, they in their topsy-turvy way have dwarfed the oaks and pines and made their gardens so that when standing or walking on the paths, they look down on trees and miniature shrubs, and have as they call it "the vision of the butterfly."

* * *

Birds are the garden's greatest adornment, and if plenty of honeysuckle and a few eastern grape vines are twined on the fences, with some mulberry trees, the birds will love their home and remain by the year. If the grounds are at all large, a fountain or lakelet, planted with water lilies and papyrus on the borders, with a seat near by to watch the goldfish come for cracker crumbs, even the great green frog that startles with his sudden spring into the water, become your friends. The birds love the fountain and will stop to drink and bathe, a sharp call and mother quail runs quickly forward with the little ones following, while the old quail perches on a nearby shrub for a lookout, while the family bathe, sometimes the mocking birds think it is their turn and drop down, scolding shrilly, driving away the quail with their clatter. The humming bird balances himself on the wing, catches a drop of water from the top of the fountain and darts away like a gleaming jewel. The orioles and canaries flit around like bits of sunshine, while the voice of the gentle dove mourns all day long.

"Women and flowers are fit companions.
No marvel women should love flowers, they bear,
So much of fanciful similitude,
To her own history: like herself repaying
With such sweet interest all the cherishing
That calls their beauty, and their sweetness forth,
And like her, too, dying beneath neglect."

* * *

Life in the country loses its best, when it apes city life, the country woman drops this simplicity robs her guests of the charm of her home. Invite superior people to the home and give them the wholesome country food, neatly served. Do not try to give them the elaborate dinners that require a corps of trained servants to have at perfection, but give them what you have and serve as you are accustomed to have it every day. The guests at ease will unfold their best thoughts. Why? Because you are sincere. You are true metal, and if it is only a penny it is not gilded to pass for gold. The influence of genuineness on the children cannot be overestimated. The young daughters of the house hold! From whence will come their ideal of womanhood if the mother of the household has not the courage to be true to the instincts of home making, of making it a house of peace, instead of one of worry where guests are a bane, instead of a blessing.

If the mother is not the ideal of her daughters they may turn to a fashion book for an ideal of life, perhaps to that one that has essays of a hundred words in length, on topics that reverence would place next to the Bible, on pages next to cooking receipts and fashion plates. Woe to the family if the daughters study the foolish lessons of etiquette set to rule in this class of literature, as though good breeding ever came by rote, and not by the culture of the soul. What matter is it if a sweet girl blushingly makes a little mistake compared to the loss of kindliness of heart by taking up the callousness of believing only in self, and in the greed for pleasure, that is plainly apparent in the fashionable girl. The boys, too, must be protected from the false thought that the fast reckless set of the neighborhood is the best, because they spend the most money. Instead, let the guests of the home be an inspiration to show the children that life and its opportunities are far from anything that money can buy, and must come from the cultivation of themselves.

The leisure for culture today is found in the country, for there only is time for books and for reflection.

In the garden the thoughts that flit through the mind soon drive away the cares of life and like all hand work gardening is a panacea for nerves and the blues. Broad views of life sweep away the little cobwebs of self and the universal brotherhood of man is known to be real. Tolstoi and his followers have found the life beautiful to be in laboring with the hands out in the weather, be it fair or foul.

Historically speaking, the dignity and God given strength gained by working has been shown by the contrast between the results of the Christian life in effectiveness and that of Buddah's followers. His converts were to live in contemplation of their own benefit, while the Christian worked for his fellow man.

So a life of the truest culture is easiest led when we are close to nature among the flowers and birds, in the midst of the green vineyards and fields, for here honor and God are real.

In the rural home books should be everywhere, and the home circle being narrow, the children are the companions of their father and mother. Instead of a lot of irresponsible boys and girls dominating society, the family circle is the social life, with father and mother the center, and there is found the true home for making the boys into honorable men and the girls into gentlewomen.

"Give me the house where kindness seeks
To make that sweet which seemeth small;
Where fondness speaks,
And every mind hath care for all."
—Mrs. M. E. Sherman.

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SUMMONS.

No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.

By C. O. Winters, Deputy Clerk.

SUMMONS.

No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.

By C. O. Winters, Deputy Clerk.

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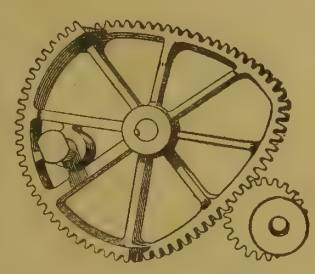

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Los Angeles Markets.

LOS ANGELES, Nov 5.

The local butter market was ruffled slightly the first of the week by cut-rate grocers making a lower price than market, but B. of T. creamery has been held firm at 70 cents per roll. The assertion is made that it will remain at present quotations.

Dried fruit market is firm with practically all peaches out of first hands. There are 75 cars of dried 'cots yet unsold, with as many or more of prunes.

Walnuts are still stronger. Berries are getting to the point where they are luxuries.

Fancy ranch eggs remain scarce and rule active at the same quotations.

Brown Australian onions are in market, and prove a sharp competitor of Danvers, being good keepers, and while not so large are more hardy.

Salinas potatoes of the fancy kinds are not over plentiful. Demand is active. Sweet potatoes are slow, with crop large and prices steady.

Fish in large supply and market nominally active.

Poultry in light receipt, the demand taking all offered.

Cheese is steady; beans about steady; honey slow; dried figs being placed. No other changes of note.

Increased activity marked the early days of the week at the citrus market auction points. The highest range was reached on Saturday, the 31st, when ten car loads of Valencia oranges sold readily at prices which topped the market for the season. In short the season's record was broken. Chapman's Old Missions almost equaled some of last year's high prices. Four carloads grossed $[illegible].66, $1870, $1917.60 and $1932.35 each. Top price were $8 and $9 per box. The trade was greatly interested and expect prices higher still.

The entire week has been signalized by high prices, which are extremely satisfactory to sellers. Choice fruit is not over abundant and sellers expect firm prices for some time to come.

Butter.

B. of T. Creamery, per 2lb roll		70
So. California, dairy, do	.65	67½
Cooking	52½	57
Cold storage	.50	60

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.37	.38
Fresh Eastern	.29	.30
Store, case count	.25	.26

Potatoes.

River, per cwt		.90
Salinas, do	1.50	1.40
Local, do	.50	1.25
Sweet Potatoes		1.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

NUTS.

Almonds, paper shell		14
Almonds, soft shell	.10	12
Walnuts, soft shell	.14	14½
Walnuts, hard shells	.13½	14
Peanuts, eastern		7
Peanuts, California	5	5½

Vegetables; Mixed.

Onions, yellow, cwt		.90
Beets, per 100 lbs		1.00
Cabbage, per 100 lbs		90
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chilles, green per lb		.03
Cauliflower	.40	.50
Celery, per doz		.40
Green Peas		.03
Lettuce, per sack	.25	
Tomatoes, 30 lb box	.25	.50

Fruits; Fresh.

White figs, 20-lb box		.60
Black figs, 20-lb box		.50
Strawberries, box, fancy	.05	.10
Blackberries		.07
Pears, northern, Bartletts, bx 40 lbs		1.50
Peaches, per box	.40	.75
Limes, per 100	.90	1.25
Northern apples, 40 lbs	.75	1.25
Four tier belleflower		1.25
Local belleflower, 30 lbs		.60
Local, box 30 lbs	.25	.60
Guavas	.04	.05

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08

Poultry.

Spring Chickens, per lb	.17	.20
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb	.17	.19
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa	10.00	12.00
Corn		1.25
Barley		1.05
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.20
Feed Corn Meal		1.50
Middlings		1.45
Cracked Corn		1.45
Oil Cake Meal	1.65	1.75
Chicken Wheat	1.50	1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, November 5.

Butter is somewhat firmer than last week, excepting as to the cheaper grades and cold storage. The cheap lines have been dragging somewhat and the willingness on the part of the holders to accept shaded prices has been plain. Fresh creamery has been picked up immediately on receipt.

BUTTER—Per lb:

Creamery, extras	30 @31
Creamery, good to fancy	26 @29
Dairy extras	24 @25
Dairy choice	22 @23
Store	18 @20
California storage	24 @27
Eastern Creamery	23 @25

CHEESE—Per lb:

Cal. Creamery, mild new, extra	14 @15
Cal. Creamery, mild new, choice	13½@14
Young America	14 @15½
Eastern, New York Cream	14½@16

Eggs and Poultry.

As will be noted, eggs have taken a decided slump during the week and are more nearly at normal rates. At present the quotations given are maximum excepting in some cases where extra large whites have commanded slightly above quotation.

EGGS—Per doz:

Ranch, selected large	42½@44
Ranch, good to choice	40 @42
California storage	28 @33
Eastern	25 @30

Quotations on poultry remain practically the same as last week, though there is more spirited demand with possibly better quality. Fine fat hens were particularly looked for and met with immediate sale at top quotations. Four cars of eastern poultry were received during the week.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $4.50@5; Fryers, $3.50@4.50; Broilers, large, $$3.25@3.50; small, $2.75@3;Hens, small, $4.50@5.50; large, $5.50@6.50; Ducks, per doz., old, $4.50@5; young, $$5@6, Turkeys, young, per lb., 18@20c; old, 14@16; Geese, pr pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz., old, $1@1.25; Squabs, $2@2.25.

Fruits and Vegetables.

There has been a material shading in price of many fruits this week. The shipping demand seems very light. Fine stock in small packages commanded top prices or even above quotations. Berries are stronger with heavy increase of prices. A few raspbefries are in, in small boxes and quickly taken at quoted prices.

APPLES—Per box, common to choice, 25@85c; fancy, $1@1.25.

PEARS—Per box: Winter Nellis, 75c@1.25; other varieties, per box, 35@75c.

PLUMS—Late Red, per box, 50@65c.

FIGS—Per box, 75@$1.

NUTMEG MELONS—Per box, 40@75c.

POMEGRANATES—Per small box, 50@75c; large box, $1.50@2.50.

PERSIMMONS—Per box, 50c@$1.

QUINCES—Per box, 40@65c.

TABLE GRAPES—Per small box, 25@50c; crate, 40@65c; large box, 85c@$1.50, as to variety; Wine Grapes, per ton, $12@20.

BERRIES—Per chest: Strawberries, Longworth, $10@12; Malindas, $2@3.50; other large varities, $4@6, as to quality; Raspberries, $5@6; Huckleberries, per lb, 7@8c; Cranberries, per bbl., Cape Cod, $10@11; Oregon, per box, $2@3.

CITRUS FRUITS—Per box, repacked: Oranges, Navels, nominal; Valencias, $2@2.75; Lemons, $1@3; extra, $3.50; Grape Fruit, $1.50@2.50; Limes, $4@4.50.

The vegetable market remains much the same as last week, excepting possibly in tomatoes, which have advanced; also string beans and Lima beans. These command about ½c per lb more than last week. Tomatoes, though slightly advanced, are not very strong except as to fancy grades. Potatoes are much the same, with fair receipts and prices held steady. Fresh lines of Oregon Burbanks have been marketed in a small way but as a rule $1 is the outside price secured. A few carloads of Sweets have been marketed at regular prices, being quickly picked up.

VEGETABLES—Tomatoes, per box, 15@40c; Green Peppers, per box, Bell, 35@50c; Chile, 25@40c; String Beans, per lb., 1½@2½c; Wax 2@3c; Lima, per lb., 2½@3½c; Green Peas, per lb, 2½@3½c; Egg Plant, per box, 40@60c; Summer Squash, per box, 35@50c; Cucumbers, per box, 40@50c; Garlic, per lb., 3@4c; Okra, per box, 40@65c; Marrowfat Squash, per ton, $10@12.50; Hubbard, $12.50@15.

ONIONS—Yellow, per ctl., 50@85c.

POTATOES—Per ctl: River Burbanks, 50c@75c; River Reds, 50@65c; Salinas Burbanks, $1@1.80; Oregon Burbanks, 75c@$1.05; Sweet Potatoes, $1.35.

Dried Fruits, Nuts, Etc.

The dried fruit market has remained at a standstill during the week, to the extent at least of there being practically no change in quotations. Buyers are in the field seeking small sizes of prunes for export, but they offer only on a 2⅝c basis, and are unable to find any quantity at that price.

DRIED FRUITS.—Prices for carload lots, f.

Apples—Evaporated, 5@6c; Sun Dried, 3½@4c.

Apricots—Royal, fancy, 9½@10c; choice, 8@8½c; Moorparks, choice, 10@12c.

Peaches—Choice, 5¼@6½c; fancy, 8½@9c. peeled, in boxes, nominal.

Pears—Choice, 6½@7c; fancy, 8½@9c.

Plums—Pitted, 5@7c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 3@3¼c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Black, 4@4½c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1903 crop, f. o. b. at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.35; Two-Crown London Layers, $1.25; Muscatels, Four-Crown Standard, loose, 6½c per lb; do, Three-Crown, 5⅝c; do, Two-Crown, 5¼c; Seedless Muscatels, 4¼c; Seedless Muscatels, floated, 4½c; Seedless Standard Sultanas, 4¼c; Thompson Seedless, Standard Sultanas, lencias, Standards, 4¼c; do, Pacifics, 3¾c; Orientals, 2¾c; Malagas, Three-Crown, 5⅝c; do, Two-Crown, 5c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz, per lb, 8c; choice, 7⅝c; fancy, 12 oz, per pkg, 6⅝c.

NUTS—Per lb: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Peanuts, Eastern, 6@6½c; California, Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shell, No. 1, 12@13c; do, No. 2, 10@11c.

Beans.

BEANS—Prices per ctl: Large Whites, $2.15@2.50; small do, $3@3.20; Pea, $3@3.25; Lima, $2.85@2.90; Red, $2.90@3; PiPnk, $2.15@2.40; Bayo, $2.15@2.40; Blackeyes, $2.15@2.35; Red Kidneys, $4.25.

DRIED PEAS—Green, $2@2.25; Niles, $2.35@2.50.

Live Stock.

CATTLE—No 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6½@7c; No. 1 Cows and Heifers, 6½c; second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c@4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5⅝@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13.50@17; Wheat and Oat, $13@16; Oat, $11.50@$14.50; Barley, $10@13; Clover, $9.50@11.50; Alfalfa, $$9.50@12; Stock, $8.50@10.50.

STRAW—Good to choice, per bale, 55@65c.

FEED CORN MEAL—Choice grades, per ton, $30@31.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26.50@29.

BRAN—Per ton, $22@23.

CRACKED CORN—Choice quality, per ton, $30.50@31.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BRAN—Per ton, $21@22.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.38¾; choice, $1.41¼; White Milling, good to choice, $1.42½@1.52½.

BARLEY—Choice, No. 1 Feed, $1.13¾@1.16¼; off grades, $1.10@1.12½; Brewing, No. 1, $1.18¾@1.23¾; Chevalier, $1.30@1.45.

RYE—Good to choice, per ctl., $1.25@1.30.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.35@1.40; small, do, nominal; White, $1.35@1.40.

OATS—Good to choice White, $1.25@1.35; Red, $1.22@1.35; Black, nominal at $1.40@$1.65.

Hops.

The price for new crop is 20@22½c, according to quality.

Wool.

Fall clip, per lb: California, Plains, 7@8c; Foothills, 8@10c; Middle Country, 10@12c; San Joaquin Lambs, 8@10c; Northern Free, 11@12c; do, defective, 10@11c; Humboldt and Mendocino, 11@13c; Nevada, 10@13c; Oregon, Valley Spring, 17@18c; Eastern do, 10@14c.

HONEY.

Honey manifests a disposition to slightly shade prices and is now being stored in greater quantity than heretofore. The quotation, while but little if any shaded, some producers are slightly shading on the prices.

HONEY—New comb, per lb:: White, 12@14c; Amber, 10@12c; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb., 30c.

Eastern Markets.

Grain and Produce.

CHICAGO, Nov. 4.—News in the wheat pit was bearish, English cables being lower, outside markets weak and local receipts increased. There was a disposition throughout the day among local traders to sell December, one of the chief incentives to such action being the decline in the price of that delivery at St. Louis. Opening on December was a shade to ⅛ lower, at 79⅝@79¾, and with liberal offerings and but a small demand the price declined gradually. Reports of damage to the crop in Argentina caused a slight rally toward the noon hour, and the market held quite steady until the last half hour, when a sudden decline occurred on selling by Armour, who has been a heavy seller the past to days. December sold off to 78⅝@78½, and closed at 78½, a loss of 1¼ to 1⅜. Corn ruled firm the greater part of the day, but eased off later. December closed a shade lower at 43¾@43⅞. Oats were weak in sympathy with wheat. December closed a shade lower, at 34⅞@35. Provisions eased off some in sympathy with the decline in price of holdings. January pork closed 2½ lower; lard a shade lower, and ribs were off 1½ to 5 lower.

Cash quotations were as follows: Flour was easier. No. 3 spring wheat, 80½@81½; No. 2 red, 80@81¼; No. 2 corn, 43¾; No. 2 yellow, 44½; No. 2 oats, 34; No. 2 white, 37@37⅜; No. 3 white, 35½@36½; No. 2 rye, 55½; good feeding barley, 37@39; fair to choice malting, 48@51.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	50,800	17,400
Wheat, bushels	249,000	38,500
Corn, "	248,200	440,400
Oats,	591,400	381,800
Rye, "	12,200	13,800
Barley, "	269,100	30,000

Chicago Live Stock.

CHICAGO, Nov. 4.—Cattle—Receipts, 20,000, including 6000 Texans; good to prime steers, 5.10@5.70; poor to medium, 3.40@3.46; stockers and feeders, 2.25@4.40; cows, 1.10@4.00; heifers, 2.00@4.85; canners, 1.40@2.40; bulls, 2.00@4.25; calves, 2.00@7.00; Texas fed steers, 3.00@3.75; western steers, 3.25@4.50. Hogs—Receipts, today, 23,000; tomorrow, 18,000; 10c lower; mixed and butchers, 4.75@5.15; good to choice heavy, 4.80@5.10; rough heavy, 4.40@4.70; light, 4.60@5.10; bulk of sales, 4.70@5.00. Sheep—Receipts, 30,000; sheep and lambs steady; good to choice wethers, 3.50@4.00;fair to choice mixed, 3.00@3.50; western sheep, 3.75@4.40; native lambs, 3.70@5.50; western lambs, 4.70@5.00.

DAIRY MARKET.

On the Produce Exchange today the butter market was quiet; creamery, 15@21½; dairy, 14½@18½; eggs, firm at mark, cases included, 19@21½; cheese, steady, 10½@11.

California Dried Fruits.

NEW, YORK, Nov. 4.—The market for evaporated apples continues firm on moderate supplies, and a fair demand. Common are quoted at 4@5½; prime, 5⅞@6; choice, 6¼@6¾, and fancy, 7. Prunes continue quiet and barely steady, with quotations ranging from 3¼@7 for all grades. Apricots firm; choice, 9¼@9½; extra choice, 10@10½; and fancy, 11@12½. Peaches are quiet and steady; choice, 7¼@7¾; extra choice, 7¾@8¼, and fancy, 9¼@10¼.

New York General Market.

NEW YORK, Nov. 4.—Wheat—Spot weak; opitions closed, May, 82¼; July, 79¼; December closed 82½. Hops and hides steady. Wool and petroleum firm. Coffee, spot Rio, steady; No. 7, invoice, 6⅛; mild, firm. Sugar—Raw, steady; refined, steady.

CITRUS MARKETS

ORANGES.

The Orange Market.—Sales in the past week in auction markets have been quite satisfactory, although there is some tendency to lower prices on account of heavy receipts of Jamaicas and Floridas, especially in Philadelphia. High grade stock, however, is selling all right in nearly all markets but this class of stock is scarce. Western markets have been taking a few cars, but many dealers are waiting for new crop navels.

LEMONS.

The Lemon Market is in a very satfactory condition. Sales at New York Wednesday, California stock, brought much higher prices than new crop foreign lemons. Western markets have been paying good prices for cars running heavily to 300 size. The auction markets on foreign stock are showing some weakness on account of the heavier shipments of new crop enroute. Indications would point to an easing off of prices somewhat the next two and three weeks.

NEW YORK, November 5.

Some Florida fruit is coming in, but not enough to affect the general market. The fruit is nice, but it is limited this year. As the demand is so keen for oranges the trade expects a fine season and say that if California will ship out regularly and not hold back and will keep stock moving prices will be profitable.

Receipts will not be real heavy until February. By that time the Florida, Jamaica and Porto Rico output will be about done. If California does not kill the market before that time by holding back and then shipping soft and wasty fruit, prices should rule firm, despite the big crop.

AUCTIONS.

NEW YORK, October 29.

C. C. U., Rialto, Bouquet Valencias, $4.15.

CLEVELAND, October 30.

C. C. U., Santa Ana, Dragon Valencias, $3.30; Dragon lemons, $3.05.

PITTSBURG, October 3.

Market steady.

C. C. U., National City. Sunset lemons, $2.75.

BOSTON, October 30.

Market steady.

C. C. U., Rialto. Marguerite Valencias, $3.15; Marguerite grape fruit, $1.50.

NEW YORK, November 2.

C. C. U., Rialto. Marguerite Valencias, $4.00; La Belle Valencias, $3.15.

BOSTON, November 2.

Market steady.

C. C. U., Rialto. Marguerite Valencias, $3.25. Cactus lemons; $4.15.

PITTSBURG. November 2.

Riverside F. C. Ex., Blue Print Valencias, $3.20. Criterion Valencias, $1.45.

CLEVELAND, November 2.

C. C. U., Filmore. Flamingo lemons, $3.25. Sunrise lemons, $1.60, 15 per cent decay.

WALNUT CROP OF HUNGARY.

Frank Dyer, U. S. Consul, reports that there will be from 150 to 200 car loads of walnuts in Hungary and the price will be $4.06 per 110 lbs. There will be no export of walnuts this year.

PRUNES.

Regarding the prune crop the same authority says:

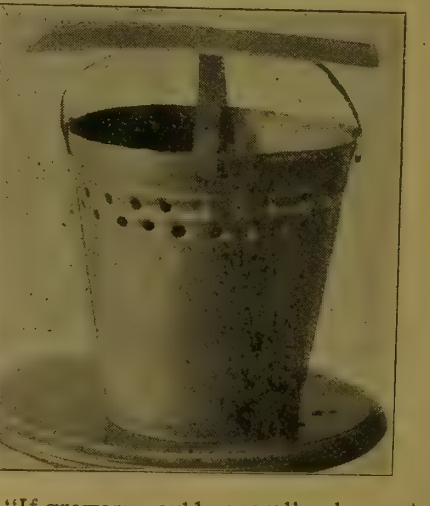
In general the new crop of prunes in Bosnia and Servia has not turned out to be larger than reported last June, and in consequence of a very weak crop the price of new prunes has risen about 1 crown per 50 kilos ($2.03 per 110 lbs). In October prices probably rise much higher, because instead of the usual 5000 carloads supplied by Bosnia and Servia together, there will be only from 3000 to 3500 carloads delivered this year.

NO BERRY PLANTS.

W. M. Gray, the Gardena berry man, thus writes the Cultivator:

Editor Cultivator:—Having received so much benefit in advertising my stock of plants for sale in the Cultivator for the last few years, I wish to communicate through its columns the information that I will not be able to fill plant orders from my own vines this year, as I leased my strawberries that I was growing for my trade.

I feel very grateful in the way my customers have treated me and hope to be with them again next year with a fine stock of plants for sale. Yours truly.—W. M. Gray.



SAFE AND SURE METHOD OF PREVENTING FROST

USE DISTILLATE

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SIMPLE AND
EFFECTIVE

Note the following extracts written by prominent fruit growers:

"If growers would generally place pots in their ranches, 25 pots fired per acre, in any frost we have had, would thoroughly protect the trees and fruit. I am sure many more will put in the oil pots next winter."—D. B. Bailey, Rialto, San Bernardino County.

"I am perfectly satisfied with the results. It furnishes sufficient heat to prevent frost damage during periods of cold weather and does not smut the fruit or trees. I find it even possible with these devices to carry the winter blossoms in my lemon grove through for summer crop."—N. W. Moodey, Glen Ellen Orange and Lemon Grove, Centerville, Fresno County.

"During the recent frosts the oil pots saved our crop except a few on the outside of the ten acres of Valencias."—W. R. Wood, Exeter, Tulare County.

"I found that, although the temperature fell to 20 degrees outside the protected area on January 16th, and again on February 14th, 40 pots to the acre gave me all the heat I needed for protection. I estimate that the crop saved on the Camilla orchard this season is worth $20,000. The fruit is heal hy, wtih fine fiavor, weight and color."—N. G. Simms, Camilla Orange Grove, Lindsay, Tulare County.

For Patented Distillate Burning Orchard Heaters Address
THE FROST PREVENTION CO.
Cor. Mariposa and I Sts. Fresno, Cal.

Some Good Things for Poultry

Armour's Beef Meal, made from Cooked Beef Hearts and Livers.

Seems Almost Too Good for Poultry

Only one place in the world where they accumulate so many hearts and livers that they use them for making beef meal for poultry.

At this place, the largest packing house in the world, they slaughter thousands of cattle, sheep and hogs and this is how they accumulate so many hearts and livers.

These hearts and livers are baked to a crisp; then they are ground into a fine meal.

The quantity is limited and a carload a month is all that can be had of this and we will use the most of it in preparing Coulson's Egg Food and Coulson's Chick Food.

We have a carload, 20 tons, 400 sacks, which will arrive in a few days and we can spare about 75 sacks of this meal. We will sell it in small amounts at 4 cents a pound. 100 lb bags for $3.50.

You can imagine how the little chicks will go for it! And for the old hens mix it in with the other feed and how they will cackle and lay!

Armour & Co. guarantee this meal to average more than 65 per cent protein. One pound equals four pounds of raw meat. That makes it as cheap as horse meat at less than one cent a pound. Being thoroughly dried, it will keep without spoiling and has no disagreeable odor.

And Armour & Co. guarantee that it contains nothing whatever injurious to poultry. A sample free for the asking. We hunt the world over for good things for poultry. Send for free sample.

Armour's Pure Blood Meal

Everybody Knows That Blood Contains All the Elements Necessary for Flesh and Egg Production It is a Valuable Aid to the Growth of Anything of the Animal Nature.

Hence it is not strange that blood, that is immediately cooked or dried and submitted to a process that makes it odorless, should be valuable to use in poultry food. There is a vast difference in blood meal. Most of the blood meal on the market is not fit for anything except for fertilizer.

We get blood meal from Armour Packing Company in the East in order to get the very best. A carload is on the way now.. This is one of the articles we use in preparing Coulson's Poultry Food. If you wish some of this good blood meal, we will be pleased to supply you. Price, small quantities, 5c a pound; 100 lb bag, $4.25. This blood meal contains over 80 per cent protein, one pound being equal to about five pounds of raw meat.

Beef Scraps===Choice beef scraps, fine ground, ready for use

The ordinary cracklings, or scraps, sold on the Pacific Coast are mostly pork scraps and contain too much fat to be fed very exclusively to laying fowls. There is another kind of so-called beef scraps that are the refuse of the renderings of soap works, and which are sold as high protein beef scraps. In order to get good beef scraps that are fresh and of good material we have made arrangements with a firm situated at the largest slaughter house in Chicago and the largest stock yards in the world, to furnish us with choice fine ground beef scraps in car load lots. A car load is on the way now and is expected to arrive now any day. One pound of this beef scrap is worth more than 2 pounds of raw meat, hence it is much cheaper than horse meat. We will sell these ground beef scraps at $3.25 per 100 pound bag and a little cheaper in ton lots. Send for free sample.

COULSON'S EGG FOOD

COULSON'S EGG FOOD is the best of all, as it contains everything complete to enable the hens to lay eggs in abundance.

When you feed Coulson's Egg Food you do not have to buy any of the other things, because everything is already mixed in this food. Beef meal, blood meal, fresh ground bone meal, charred bone charcoal, flax seed meal, willow charcoal, ground sifted oats, middlings, pea meal and other meals, and all things needed to make the richest and best egg producing food. We buy all these things in wholesale quantities at the very lowest cash prices. It is then thoroughly mixed by machinery in the right proportions by those who who know how and you have only one profit to pay. The poultryman that buys an article separately has to pay a profit on every single article he buys and conseqeuntly it costs him more money to mix a ration with only one or two articles, than it would to buy Coulson's Egg Food with everything complete.

Besides, the man who buys in small quantities has to take what he can find at the local stores and pay a big price for inferior articles, while we go thousands of miles in order to get the right kind of material. We do not use fertilizer stocks. Any poultryman is at liberty at any time to inspect the material we use in manufacturing Coulson's Poultry Foods. We are always pleased to show any parties through our factory as we are proud of the fact that we have the very best food articles obtainable.

Coulson's Egg Feed

Why You Should Feed It

It is a wholesome and safe food, contains nothing injurious. A correctly balanced ration, a scientific feed prepared by practical people who know how.

IT IS NOT AN EXPERIMENT. It is successfully used by hundreds of the most successful poultrymen and recommended highly. Fed as a warm mash either morning, noon or evening. SAVES BOTHER IN MIXING; YOUR TIME IS WORTH MONEY. Produces excellent results by natural methods. Price reasonable—CHEAPEST FOOD ON THE MARKET as it gives the best results.

GOES TWICE AS FAR as ordinary feed. INCREASES EGG PRODUCTION, furnishes bone, muscle, feathers and meat and helps fowls to grow. Pullets begin laying earlier. Shortens molting period. You can have eggs in winter when eggs are profitable. It is just the feed that all poultrymen are looking for—a feed that makes hens lay eggs nearly every day. ONE HUNDRED AND SEVENTY-FIVE EGGS PER YEAR PER HEN by feeding the hens Coulson's Balancel Ration Egg Food. Are you feeding your hens Coulson's Egg Food? If you are not, then you are making a great mistake. Coulson's prepared food for laying hens is just what your hens need and they must have it, if you expect them to lay many eggs at this time of the year. There is in Coulson's egg food everything complete to help the hen grow the eggs.

Mr. D. H. Ward at Cotati says: "I have fed Coulson Egg Food for over a year and I am well satisfiedwith it. I am now getting 90 dozen eggs a week from 500 hens. My hens laid well all last winter on Coulson's Egg Food and will continue to feed it this winter.

Others try to economize by buying cheaper feed, but they make a great mistake.

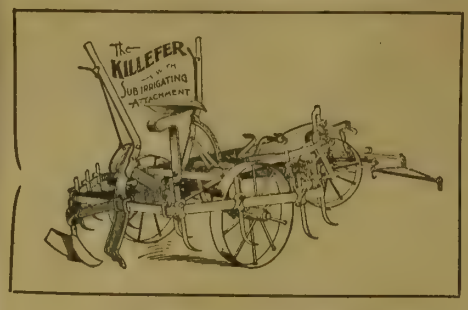
Price of Coulson's Egg Food at factory. We do not pay freight. One sack, $1.65; 5 sack lots, $7.75; ½ ton, 11 sacks, $16.50; 1 ton, 22 sacks, $33.00. We place on cars free of charge. Sample and catalogue of Poultry Supplies free.

A. R. COULSON CO.

Manufacturers of Poultry Remedies, Condition Powders, Poultry Foods, Roup Cure, Lice Killer, Etc, Wholesale and Retail.

(Incorporated) **772-774 Main St., Petaluma, California**

CULTIVATORS



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Acid, Alkali and Water Proof; all ready to lay. Will not deteriorate with age

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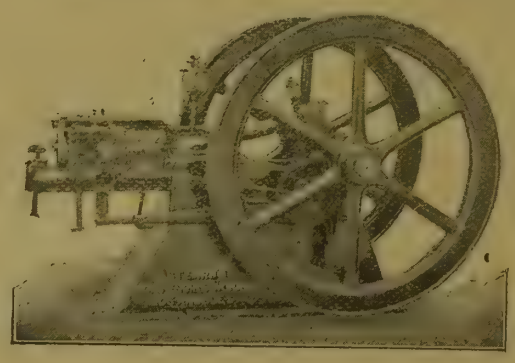

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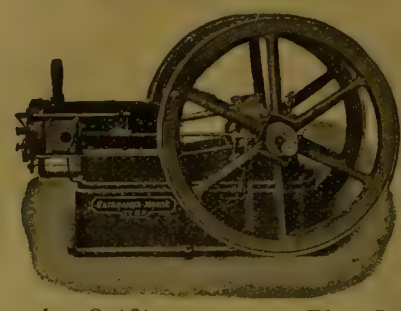

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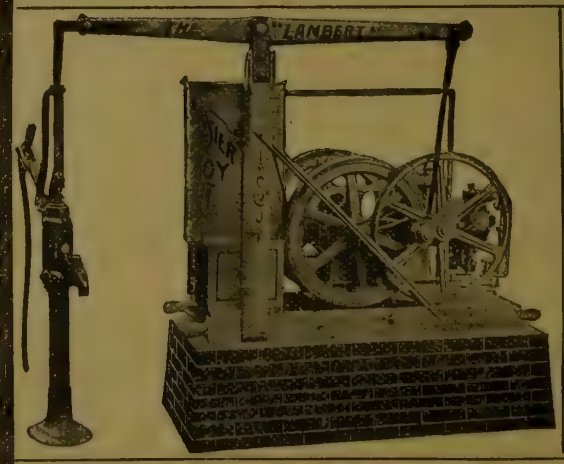

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California Cultivator

LOS ANGELES SAN FRANCISCO

NOVEMBER 13, 1903

CALIFORNIA ORCHARD SCENE. Courtesy of Sunset.

I know not where lies Eden-land;
I only know 'tis like unto
God's kingdom, ever right at hand;
Ever right here in reach of you.
—Joaquin Miller.

The leaves laugh low in the wind,
Laugh low, with the wind at play;
And the odorous call of the flowers all
Entices my soul away.
—Ina Coolbrith.

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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 20 LOS ANGELES, CAL., FRIDAY, NOVEMBER 13, 1903 Subscription $1 a Year

..Deciduous Pruning..

BY J. W. MILLS, POMONA

It is often that the success or failure of an orchard depends on the manner in which it is pruned. In the hot interior valleys where the great bulk of the deciduous fruit is raised, the trunks of the trees require almost complete shade to prevent their being sunscalded during the hottest summer days. The flat-headed borer is a death dealer to our deciduous trees if he has but half a chance, and that comes whenever a spot in the bark becomes injured by the heat of the sun. Trees which have their trunks shaded by the branches or wrapped with some covering, or even whitewashed, will not be troubled with these borers. A peach tree that is headed within six inches or a foot of the ground will live longer and bear better fruit than one which is headed to two or three feet from the ground. The trunk of a tree that is shaded and protected by the branches of the tree will not suffer while the owner is getting around to put some protection around it.

There is no set rule for pruning any kind of fruit tree, but the general idea to keep in mind is to so trim it that it will protect itself, maintain a stocky, strong and upright growth and all with due consideration of ease and comfort in cultivating.

There are some varieties in all kinds of deciduous fruits which have a spreading habit, and others have a compact habit of growth. Just why this is, further than that it is the nature of them to do so, is hard to explain. It is a good rule to allow all kinds of fruit trees to follow their inclinations of growth as near as possible, yet it is necessary to regulate these inclinations in some cases in order to cultivate properly and with ease. For instance, Alexander and Rhode Island Greening apple trees spread out flat if allowed to grow naturally, while yellow Newtown Pippin, Stump or Northern Spy will grow almost like a poplar tree if allowed to grow unpruned. Any tree that requires pruning in order to bring it into advantageous condition may be spread or contracted to a certain extent or by cutting to outside buds for spreading and to inside buds for contracting. Trees which grow in upright compact shapes usually produce fruit that requires much shade, but such a tree necessarily has a very limited bearing surface. A little spreading will increase that, but too much will allow the hot sun into the branches and loss will follow there, so these points must be kept in mind at pruning time.

No more than three branches should be left as the main branches of apricot, apple, peach or pear trees. These should be started the first year, so that they will be as widely separated as possible and on different sides of the trees. There may be what appear to be wide gaps left in the trees, but they will fill up in a year or two themselves, or the process may be hastened by pruning to a bud that will send a limb in that direction. This should be done some time after the second or third pruning. What may appear to be a very wide opening in a young tree will not be objectionable later on.

* * *

Of all deciduous trees, none require as severe pruning as the peach and apricot. The latter is usually pruned just after the fruit is picked in July, thus giving the remaining fruit buds time to develop and fill out during the latter part of the season. It is essential to cut part of the new growth very short, say to three or four buds, in order to keep the head of the trees from getting out of reach. The following pruning may remove the top branches which have borne some fruit and which would carry the head of the tree too high if moderately pruned, and the young shoots near the base, that come from the short pruned limbs may take their places. The strongest shoots should be used for head renewals, as they would if left too long, outgrow smaller and weaker shoots that may be cut back. This rule applies to both peach and apricot.

While apricots are usually pruned immediately after harvesting the crop, peach trees seem to be more thrifty if pruned during the winter or spring. Peach trees become full of dead stubs if pruned excessively during the summer. All wounds heal better if made during the early spring or when trees are at the height of their vigor. It is not practical to follow this rule in large orchards of mature trees, but in the home orchard or with young trees it is more desirable than very early pruning.

Bearing peach trees, after they have reached their fourth year, require at least two-thirds of their fine brush removed in at least three out of four prunings. It must be remembered that peach trees bear on the wood that grows during the previous year, and in order to procure a supply of vigorous fruit wood for each year, a vigorous growth must be secured each year, and this cannot be done without severe pruning. The heavy pruning should be done during the slack time of winter. We refer to the removal of top branches and those which are removed to thin out the interior of the tree. The light pruning, cutting in of the small laterals that bear the fruit buds, should be deferred until thinning time. There are two advantages in this, in case of a light crop, the leading laterals need not be trimmed back so close, while if heavy thinning is necessary, they should be cut back much closer. Any brush that does not carry fruit buds as is often the case in the inside of trees, should be removed during the winter pruning as it is much more rapidly done when the leaves are off the trees. Peach, like apricot trees, should be pruned to an open center, that is something like vase shaped. This admits the sun and better fruit is the result, besides distributing it more evenly throughout the trees, thus enabling them to carry a bigger load.

* * *

The apple is the one tree of all that requires proper beginning in the orchard. It grows to be a large tree and we find that if large branches are removed, decay follows very rapidly. It is therefore important that the first few prunings after it is planted should be done with the future tree in the operator's mind. Three main branches are plenty, and they should not be pruned shorter than two feet after they have made their first year's growth. If they are, it is likely that larger cross limbs will have to be removed afterward. It is better to have few branches well separated during the first three or four years than to be compelled to thin out when they become three or four inches in diameter. It is much better to protect the trunk and main branches during the first few years by whitewashing them than to grow a dense head and then thin out afterward. All large wounds on an apple tree should be painted over with a white lead and oil paint. We find that wounds made eight years ago still have a coating of white lead paint on them, while those not covered with any material are still black and full of decayed wood.

After the trees come into bearing, pruning must be regulated according to the variety. Some varieties, such as Rhode Island Greening, and White Winter Pearmain bear their fruit mostly on the inside of the tree, the heading back will not affect the crop very much. On the other hand, Yellow Newtown Pippin and Famouse bear a large part of their crop far out on the branches. Heading back of these varieties therefore cannot be done at one pruning without seriously shortening

(Continued on Page 367.)

In a recent issue of the Cultivator, John Isaac wrote of grape growing and in speaking of table grapes, he said; "The principal section producing table grapes is Sacramento county and the counties immediately surrounding it." We don't know that this is disputed, but there is also one little section up in Tulare county, next to Fresno county line, which claims to be "some" on table grapes, too. We refer to Dinuba. A few days since a crate of these grapes was deposited in the Cultivator office. The crate contained just eight bunches, weighing three to four pounds each. No word announced who they were from and all the expressman knew was that they were from Dinuba. As one of the Cultivator force was recently in the vineyard of F. H. Wilson of the Fresno nurseries and saw tons of just such grapes, we assume they are some of Wilson's Tokays. They are immense and as good as they look.

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Nov. 13, 1903

Circulation this issue 9,300

Governor Pardee to be at the Convention.—Governor Pardee has announced his intention of meeting with the fruit growers of the state at their next convention, to be held at Fresno on the 8th prox. Our present governor has taken a more than usual interest in this greatest industry of our state, and on the coming occasion will express his views in regard to it and learn from the practical growers what their requirements are.

* * *

Elwood Cooper's Enlarged Powers.—Hon. James Wilson, Secretary of Agriculture, has appointed Hon. Elwood Cooper, State Commissioner of Horticulture, as special agent of the Bureau of Chemistry for the purpose of investigating the character of imported foods and also to act under the law of July 1st, 1902, relating to falsely branded goods passing from one state to another. Mr. Cooper has always been a strong foe to food adulteration and sophistication, and this new appointment arms him with additional power to prevent frauds in this direction.

* * *

End of Fresh Fruit Season.—The late rains in the upper country have practically ended the grape season, so far as shipments are concerned. There is still a great deal of fruit picked for shipment which will go forward, and some selected grapes may be forwarded for several days yet, but aside from these the fresh fruit season may be said to have closed. Shipments for the season have been 7354 carloads, an excess of 343 carloads over last season's exports to the same date. All of this came from within a radius of fifty miles of Sacramento, which covers the fresh fruit section of the state.

* * *

Emperor William.—The published statement that Germany's ruler may be suffering from a malady of the nature of cancer, which killed General Grant, has startled the empire, and set the world to guessing as to the real nature of the disease. Because the doctors say there is no need for apprehension does not alter the fact that the Emperor is a very sick man. It will be remembered that Emperor Frederick died of cancer of the throat after a reign of a few months. In the case of General Grant, who died of throat cancer three years before Emperor Frederick, the cause of the malady was almost identical with that of Frederick. Grant died July 23, 1885, and Frederick June 15, 1888.

* * *

Possible Conflict.—There may possibly come war between the United States and Colombia, by reason of this government recognizing the new republic of Panama, but such a thing is remote. The United States of Colombia has entered a protest against the action of this government by reason of the acts that have occurred on the Isthmus of Panama, and certain statesmen affect to believe it to be but the forerunner of a more decisive protest on the part of the Colombian government.

It would seem futile in the extreme, in a government which was not able to stand before a revolution, whose fighting force numbered less than 10,000 men, to attack a republic whose munitions of war are so complete as to wipe it off the earth in a single engagement. But such is the fighting blood of the Southland that no overwhelming odds will stop it when once its anger is aroused to fighting heat. So we may have to repeat our experience in Cuba and the Philippines before our position is thoroughly understood and respected. There is nothing in the claim of Germany that this country is at the bottom of the insurrection which has dismembered the Colombian government. The canal treaty may affect our interest in, and friendship for, that country, to some extent, but it is not in the nature of our leading statesmen to lend aid or sympathy to an insurrection merely for the purpose of gaining the canal treaty which we can secure by attachment.

* * *

Doubtful Showing.—The Cuban reciprocity treaty will experience serious opposition in Congress. It may not get through at all, and, so far as Californian interests are concerned, it ought not to.

The proposed measure is in direct opposition to our commercial tariff, and if passed, would seriously cripple our condition, as we view it. Mr. Cannon, the new Speaker of the House, thinks there will be harmony between the two wings—the Senate and House of Representatives—and that the measure will pass in some form. But there are senators who are prominent in their opposition to it and who aver with equal certainty, that it can not pass as a resolution, but must go through as a bill. This would open up the whole tariff question and might prove very troublesome at a time when no friction is desired. So if we are to interpret the indications rightly the Cuban treaty will not go through in the form it has been supposed it would, and there are strong indications that at the last moment a hitch may occur between the two houses which will tie it up indefinitely.

* * *

Our Growth.—The state controller has issued a statement of the taxable values of California. This sum he places at $1,598,603,226.

The land values he estimates at $848,490,266. Improvements on this land $352,635,409. Personal property foots up $269,488,904. Assessed mortgage values aggregate $151,520,861, and railroad property $84,187,758. Taking the population of the state as a basis from which to compute, the value of the state's wealth would be over $1000 to every man, woman and child. It should be bourne in mind that this estimate includes only assessed values, which is not the market value by from fifty to sixty per cent. Add this to the assessed wealth—or the wealth in sight—and you have an array of figures which is pleasing to contemplate, when we consider the fact that the state is but little more than half a century old.

* * *

Speaker Cannon.—The Fifty-eighth congress assembled at Washington on the 9th, promptly elected Joseph Cannon, of Illinois, speaker of the House. Mr. Cannon has long been an active member of the House of Representatives, and honored by both political wings of that body because of his sterling honesty. It is safe to say no visionary bills will pass his notice, nor will any wildcat schemes nor unmerited appropriations get through congress so long as he controls the situation. He is not as brilliant as Henderson, but he is just as safe.

* * *

A New Convention.—Strong Probability exists that the subject of the Panama canal treaty may receive immediate attention by the new republic of Panama. A committee has been named by the government and will shortly approach Mr. Hay, our Secretary of State, with a proposition to open the subject and conclude a treaty without delay. This is, of course, what this government desires, and the speedier the convention is held and negotiations closed the better will the situation be handled all around. The Colombian government has made a proposition to open the defunct proceedings of the old convention but Mr. Hay holds, nothing can be done in this direction as that authority is dead by reason of time limit.

* * *

Demand for Locomotives.—An almost unprecedented demand has been made this week for motive power by many leading transportation lines of the country. The Seaboard Air Line has put in an order for thirty up-to-date engines; the Pennsylvania lines west of Pittsburg are to have eight new machines, and the Belgian state railways have asked for bids for 100 locomotives of American make.

Orders for new engines have been placed six months ahead with the American Locomotive Company, and also with the Baldwin works. There is enough work in sight to keep the plants of those two concerns running all winter. The first named company is at work on an order from the Missouri Pacific railroad for thirty-five powerful engines. The Rock Island, the Southern Pacific, Union Pacific and Santa Fe lines have been increasing their motive and transportation facilities during the past year as rapidly as their orders can be filled. All this goes to show a tremendous growth in the country's business and unlimited confidence in the future prosperity of the entire country.

Paying the Mortgages.—All the Pacific Coast States are in the front rank of American prosperity. A review of the business situation, at the close of the month of October shows the farmers of California, Oregon and Washington in the front rank of the states discharging their debts and paying off their mortgages.

The unusual high prices paid for wheat, barley, hops, stock and fruit, allows a surplus to be used in the discharge of obligations. In California, extensive improvements are being made on forms throughout the grain districts, these comprising new houses and barns, larger orchards and the buying of blooded stock. Many farmers have purchased property in near-by towns, and are building homes for the winter, whence their children can go to graded schools. This augurs well for the spirit of progress which abounds in the people. It also augurs well for the general growth of the Pacific Coast States.

* * *

Farmers to Make Prices.—The Advisory Board of Credit at the convention of farmers societies held in Chicago in September, has issued a call for a meeting in December.

The object is to bring about a concerted action among all the farmers' societies and organizations "to secure equitable prices on farm products and to guarantee to consumers food products at a fair price, and not loaded by trust profits."

If the farmers can accomplish this they will confer a lasting benefit on the people of this country. And, after all, why not? If railroads and steel manufacturers can establish trusts, and dictate prices to consumers, why may not the agricultural producers combine to regulate prices and protect the public from imposition?

* * *

Governor Got there—Nebraska is credited with having not only politicians of acumen, but politicians of genuine sense and practicability. In the selection of a granger governor last year, the state made a hit. He was a fighter in time of war, and he is a hustler in time of peace. A dispatch from Lincoln this week states that Governor Mickey stood on a stack of wheat at the farm of the State insane asylum at Lincoln and tabled bundles for a thrashing machine, so fast that the feeders were kept busy. The governor was being shown over the field when he climbed a stack and shed his coat. Even bets were offered that the governor could not keep the table full, but he did.

When Samuel J. Kirkwood, famous as Iowa's war governor, was a candidate, he was challenged by his opponent to a harvest match. It is told of the contest that it was witnessed by hundreds and at the conclusion of the match Kirkwood had his erstwhile enemy on the shady side of the straw stack, tetotally whipped.

* * *

The method adopted by J. Corwin Jacks, of Batavia, New York, to spray fruit trees will surely attract the attention of California growers. He sprays with dust composed of ten pounds of powdered lime; one pound of paris green; one pound of sulphate of copper and one pound of sulphur. It is powdered and is applied with a blower fed by compressed air. One gallon of the preparation will spray 50 to 75 large trees. Mr. Jack's contention that it is superior to liquid sprays, is endorsed by Prof. Craig, of Cornell University, and others.

..General Agriculture..

THE LIMA BEAN.

While the lima bean is grown in vegetable gardens for local or home use in nearly every state in the Union, its culture on an extensive scale as a commercial product is confined to California, says a report of the California station. In Ventura county and in counties adjacent thereto between 40,000 and 45,000 acres are devoted to the lima bean industry.

The acreage is much smaller than in former years, due to extremely low prices prevailing prior to 1900, to three seasons of drought resulting in crop failure, except on irrigated lands, and to the growing of sugar beets on large areas formerly devoted to beans.

The lima, which is a pole bean in other sections of tht United States, is grown without poles or other support in the California "bean belt." The vines pile themselves along the rows and bloom and pod profusely unless checked by drought. The beans ripen during September; those grown farthest from the sea ripen first and cure more quickly when cut than those grown nearer the coast.

The crop is harvested by means of sleds with knives attached to the runners and drawn by horses or by the more modern wheel cutters. In from two to four weeks after cutting, the beans having cured, are thrashed, either by steam thrashing outfits, which move from field to field, or by the method known as "tramping," which separates the beans by means of horses and carts or other vehicles, driven over the vines previously piled on prepared earthen floors, the straw being constantly turned and moved with pitch forks. The latter method, while slower than the former, is said to be not more expensive if the weather is dry.

The average cost of production is in the neighborhood of $2.25 per cental. When properly cultivated, from 1200 to 1500 pounds can be produced per acre on good land in favorable seasons; in the best localities as high as 2000 pounds per acre have been grown. The prices realized by the growers fluctuate considerably. The crops of last and the previous season will probably average $4.00 per cental, yielding handsome profits.

Accurate statistics of production are not at hand, but the estimated yield last season was 550,000 sacks of 80 pounds, and it is believed that this year's production will equal, if it does not exceed that of last year.

FARM IMPLEMENTS EXPORTED.

Few articles show a more rapid growth in exportation than do agricultural implements, or a wider distribution. The total has grown from a little over half a million dollars in 1864 to over $21,000,000 in 1903, or nearly forty times as much in 1903 as in 1864, while manufactures of iron and steel, in which the growth has been looked upon as phenomenal, are only about thirteen times as much in value of exports in 1903 as in 1864. The distribution of American agricultural implements has also extended to nearly all parts of the world. The bureau of statistics' export statement shows that reapers and mowers were sent in 1902 to over fifty different countries and dependencies, and plows and cultivators to even a larger list of countries and dependencies. The sound of the American mower and reaper is heard in British, French and Portuguese Africa, in Egypt, in European and Asiatic Russia, in Japan, in India, in Australia and in practically all the South American countries and all of the countries of Europe, while the American plow and cultivator go to practically every country in the world.

LOOK OUT FOR BORERS.

It will pay every farmer, whether he has but a dozen trees to supply his own family, which he has put out in the last eight or ten years, or a large commercial orchard, to take time in the next week or ten days to examine the trees carefully and see if there is any evidence of the work of the borer. The eggs of these borers are laid in June. By this time the little rascal has been hatched out and is beginning to work. You will find him about the root of the tree from one to six inches above the ground. You will likely see some of his chippings, or perhaps nothing more than a dark spot in the bark, which the point of a knife will show to be the path of the borer. He goes around the tree, and if let alone will girdle it almost as completely as it could be done with a knife. Follow his path, get him out and execute him; or if he has bored into the body of the tree, put a wire in after him and destroy his capacity to do the mischief in the future. If you should not do this, you may find out by next May or June that one of your young trees is about dead. If you will examine it then, you will find that the borer has girdled it. It is better to attend to it now, and the sooner the better.—Farmers' Wife.

PROFIT IN FARMING.

Farming does not give the largest profit compared with many other industries, but it affords more security to those who invest in that direction than any other, as the one who owns a farm without encumbrance has an opportunity to apply his labor, and labor itself is capital, the combination of farm and labor being really the union of capital and labor. It is true that during some years the farmer will make little or no profit, but he has the opportunity of producing a sufficiency for his own use and is not compelled to pay rent. Another point is that a well-cultivated farm becomes more valuable every year, as a large proportion of the profit is stored in the soil.

Ventura county bids fair to be a pioneer in the making of good roads. Petitions are being circulated asking the supervisors to take steps looking to a bond issue of $500,000, the money to be applied alone to a system of roads throughout the county, and these petitions are being generaly signed by the taxpayers. There are some good roads in the county, about thirty miles of the highways being oiled, but many roads are in bad condition, owing to the character of the soil and the great amount of heavy hauling necessary in moving Ventura county's heavy crops.

Ellis W. Roberts, treasurer of the United States, at the late bankers' convention held in San Francisco, said: In manufactures the American people are far and away beyond rivalry. Against our $13,000,000,000 of annual product, Great Britain shows $4,263,000,000, France $2,900,000,000, Germany $3,375,000,000 and Austria-Hungary $1,596,000,000. These four great nations turn out in manufactures $12,116,000,000 a year, or a billion dollars less than does this country alone. From 1890 to 1900 the annual product of our manufactures grew from $9,372,437,283 to $13,039,279,566. Our imports of merchandise ran up from $789,310,409 to $849,941,184, and our exports from $857,828,684 to $1,394,483,082.

By J. W. Jeffrey, Los Angeles

WAS IT A COMPROMISE.

The formation of the California Fruit Agency last April was thought by a few to have been precipitate, those offering the most persistent opposition not having been in touch with the co-operators who had been striving for ten years to bring about by agitation what was accomplished by agreement after only one month of consideration. To those who had given the subject of fruit selling careful consideration the establishment of the Agency was but the culmination of the struggle, along the lines of least resistance and the only result possible except that of retrograding to the conditions of the early nineties. Hence, what seemed precipitate action to some was but the working out of natural laws that govern attempts to establish complete co-operative control of the marketing of a commodity. It is but the statement of a well-known truth to say that the line of greatest resistance to such control was the growers outside the Exchange, and not the fruit merchants who formed the front of the opposition to the Exchange plan of selling fruit. This opposition being found insurmountable, after seven years of severe trial, and the necessity of full control being a cardinal point of success of the plan, the only possible solution was to unite the agency, through which the outside growers had been able to prevent it, with the agency of the Exchange. The experience of ten years of commercial war proved that one-half the growers would not join in the co-operative plan, and that the fruit dealing firms could not do business with the outside half of the fruit that was satisfactory to customers. Under these conditions neither contingent could produce safe and satisfactory results and the formation of a co-operative agency was inevitable, unless the growers were willing to abandon all efforts of a mutual character. From these facts we conclude that the California Fruit Agency was but the working out of natural laws, holding that these conditions were brought about by the volition of those who did not approve of the effort to form a universal agency embodied in the original Exchange plan.

Co-operation is the joining together of kindred interests for the purpose of more effectively competing with adverse interests. It recognizes that many of the differences between commercial classes are permanent and yet assumes that the advancement of the interests of each member will be for the good of all in a general way. The most perfect form of co-operation is gained through the trust. The beneficiaries are few, to be sure, when compared with the magnitude of the business done by some of our leading trusts. The modern devices through which the stockholders of a corporations surrender their voting power to a board of trustees, is the acme of co-operation, inasmuch as it places every element of a complex and otherwise competition business in perfect accord, makes possible the most economic production of the commodity handled and destroys competition. Not only is this modern corporate invention against the interests of the consumer directly, but it is contrary to good public policy for the stockholder of a corporation to divest himself of his voting power and rest it in a committee of control as the management of a trust, is sometimes called. The result of the stockholder's separating himself from his voting power has been brought before the public in a startling manner lately in the developments of the great steel and shipbuilding trusts. A system that can produce a Schwab is not good for the body politic or helpful to the final success of even the members of the trust itself, and may be termed in its application to the shipbuilding interests the very apothesis of graft and rascality. The abuse of this centralized power has become so common that students of commercial economics see in it the downfall of many of the schemes of monopolistic tendency. That many of these industrial units called trusts have already overreached themselves and gone to pieces, and that the attitude of the present administration is discouraging to the further oppression of capital are most faithful indications that only co-operative institutions not in conflict with true economic law and the policy of state are to be popular with the people. In this tendency we see the principle exemplified that business is a science and failure must come sooner or later from the violation of the laws of this science.

Now, from all the above, we reason that, if the kindred interests of the citrus fruit business have been joined together by the Exchange and the Citrus Union in a marketing institution that does not violate natural business laws of public policy, the combination is neither a trust nor an ephemeral enterprise and must have recognition as one of the useful institutions of the country. In the first place we see that the controlling power is retained by the individual stockholder of the associations composing the Exchange and indirectly by the customers of the Citrus Union. Under the present advancement of the co-operative idea this controlling power is as near perfectly fundamental as possible. Experience of the last few years has proven this. The culmination of the use of this power is the California Fruit Agency. If it is the trustee or governing committee it is subject to an annual reckoning with the source of its power—the fruit growers. Before these two halves of the citrus industry united the industry presented the anomaly of civil commercial war; the promotion of internal competition that made the business the easy victim of other competing fruit industries; the whole business as the two lobes of a brain thinking adversely and giving impulse to antagonistic action in the same body. The state of affairs preceding the formation of the Agency was public display of an irreconcilable difference between two contingencies in the same industry, and had to be reconciled before the citrus industry of California could do otherwise than invite outside opposition and continued internal strife. The present unity has done the ultimate in unifying the business as far as possible under the present state of co-operative progress. In bringing about this unity the co-operators have not violated good public policy. They have removed a number of useless elements, but accomplished it without injury to the public or wronging the individual, for if an individual has intervened between the producer and consumer without helping either, he has no rights that should be respected. With this view of the case, no one is justified in fighting the Agency under the pretext that it is a trust-like combination, or a detriment in any way to any interest that has a right to exist. If any one asks you if it is fair to shut out one-half the growers from the benefits of purely co-operative advantage, answer that it is not possible either to shut out or include those who have not adopted co-operation of their own volition, for the very term "co-operation" means voluntary, mutual action. As long as the policy of the California Fruit Agency recognizes purely representative control and keeps pace with the growth of the co-operative idea, no criticism of the present combination can hold. It cannot go in advance of the principle as held by the individual and it will not lag. We need no chart of business principles to confirm the advisibility of this combination—the chart of business experience making for the last ten years having furnished the data necessary for continued action.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO

UNJUSTLY CONDEMNING THE UNIVERSITY.

It is a common fault with most people that they jump at conclusions without due thought or consideration. This is being done now in the case of the disappearance of the ground squirrels in the northern counties. A long time ago, some of the professors of the State University experimented in Contra Costa county with a serum which was supposed to cause rabies in squirrels. Nothing came of the experiment, and it was forgotten. Recently, however, a disease has broken out among the pests and they are disappearing. More recently a disease has broken out among the cattle in some sections of Contra Costa county and now all these facts are lumped together and the university professors are being blamed for the cattle disease, for it is as clear as mud that once the professors innoculated some squirrels, that now the squirrels are disappearing, that some cattle are sick, therefore, following this line of logic, the university professors are responsible for the sick cattle, and some of the northern papers are raking them over the coals for their wickedness in thus injuring the cows of Contra Costa county. It is very improbable that there is any connection between the disappearance of the squirrels and the cattle disease, and much more improbable that the experiments tried with the serum have had the effect of killing all the squirrels, as their disappearance is not confined to the section where the experiments were tried, nor did it start there and spread, but it has broken out simultaneously over most of the northern counties and in sections remote from the point of experimentation. Moreover the disease has none of the symptoms that accompany rabies, and is probably a different thing altogether from that which the university people tried to introduce. This much should be said in defense of the gentlemen who are doing so much good work for our farmers and who are now being heartily denounced in some quarters for a matter over which they have had no control and for which they are in no way responsible.

* * *

GOOD OLIVE PROSPECTS IN THE NORTH.

Reports from all the olive sections of the north are to the effect that the crop this season will be a very good one, equal if not superior to that of last year. The principal olive counties of Northern California are Santa Clara, Contra Costa, San Joaquin and Butte, and all these give the same report in regard to the coming crop. The season is somewhat later than usual but the fruit is large and well formed. There has been very much interest manifested in olives in this section of the state during the past few years and some very large orchards have been planted; these are now coming into bearing and adding greatly to the olive output of the state. The olive seems to be a general favorite and does well in nearly every county in the state where actual winter weather is not prevalent. Very large areas have been planted in Tehama county, especially around the Maywood colony, where it is the principal fruit now being cultivated.

* * *

RUSHING INTO DECIDUOUS FRUIT GROWING.

The past season has been one of the most prosperous that the growers and shippers of deciduous fruits have had for many years past, and nearly every car sent out brought to its shipper a profitable return, while in some cases the returns were very large. Of course, this is an encouraging condition of affairs and every one wants to share in the good fortune of the fruit growers. As a consequence there is serious danger to be apprehended that we shall pass through the usual experience of good times, and have a rush into the profitable business until we find it so badly overdone that there will be no profit for any one. Signs already point that way, and nurserymen in the upper country state that the demand for nursery stock the coming season promises to be heavier than ever and deciduous fruit planting more extensive than in any previous year. This has been the experience of the grape growers. The past few years of good times gave so great an impetus to vineyard planting that the wine makers claim they are afraid for the outlook and are compelled to hedge. However this may be, it has given them an excuse for cutting prices and the late planters will suffer. It may be that the good prices received for deciduous fruit this season will have the same effect and that another season will see a great slump in prices.

* * *

PEAR BLIGHT IN THE NORTHERN COUNTIES.

Pear blight, which has done so much injury to the pear and apple orchards of the southern San Joaquin valley, is reported from several sections in the northern counties. It was hoped that this dread disease would be confined in its attacks to the section in which it first appeared, but it has now shown itself in sections remote therefrom and from each other. So far it has not appeared in the great pear belt along the Sacramento river, but it is uncomfortably close to it. The pear crop along the river this year suffered greatly from crater blight and pear cracking and the value of the fruit, for both shipping and canning purposes, was very much reduced on this account. These diseases are unlike the pear blight, which is a bacterial disease and works through the cambium layer, or the sapwood. This disease is covered and cannot be reached by any remedies. It is insidious in its work and frequently its presence is not suspected until the tree is so badly involved as to be beyond relief. The other diseases are the effect of a fungus growth and may be relieved if not wholly checked by the proper application of a fungicide, the salt, sulphur and lime wash in the winter season, and Bordeaux mixture later in the season. The theory of the diseases is that they are propagated by spores which find lodgment on the twigs and branches of the trees in the fall, when they are shed from the parent growth, and remain dormant until conditions favorable to their germination are presented in the spring, when they attack the twigs and fruit with virulence and spread with amazing rapidity until, unless checked by some fungicide, the whole tree becomes involved and little good fruit will be produced. If, while these spores are still dormant, some effective remedy is applied, the greater part or all of them are killed and the disease is checked. It has been proven that there are no better fungicides than sulphate of copper and sulphur and these form the effective agent of the washes recommended.

* * *

A GOOD DRYING SEASON IN THE PRUNE DISTRICTS.

The season has been a most favorable one for the prune and raisin dryers in the northern counties. The weather man plays sad pranks with us sometimes, and sends a heavy and unwelcome rain at the time when it will do most harm to the fruit on the drying trays, and often supplements this with cloudy weather to the detriment of the drying fruit. This season we have escaped and been favored with exceptionally good weather all through the drying season. This has gone far toward compensating for the shortage in the prune crop, and, together with the improved quality of fruit and better prices which it is commanding, puts the prune growers in better shape than usual.

* * *

THE OLIVE KNOT IN BUTTE COUNTY.

The olive knot (Bacillus oleae), has got a firm foothold in Butte and Tehama counties and in the latter little effort is being made to eradicate it. In Tehama county wherever a diseased tree has shown itself it has been promptly dug out and destroyed, but in the affected orchards of Butte county the disease has been to a great extent allowed to run its course to the great danger of clean sections. Fortunately this disease is not so rapid in its spread as some other diseases of orchard trees and its progress has been slow, but on this account it should be the more readily handled and measures taken to extirpate it before it gets beyond control. This disease was first discovered in Merced county in 1893, and though it has been with us

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for this length of time it is still confined to a comparatively limited area. There are yet some few affected trees in Merced but aside from these, the principal area of infestation is in Butte county, where there are some very bad cases. The disease is a very serious one where it gets a foothold, involving the whole tree, from the fibrous roots to the leaves, no part escaping, and there is no known remedy except fire and the total destruction of the diseased tree. Some effort should be taken in the interest of our olive growers to extirpate this disease while it is yet within control, for should conditions arise under which it should become epidemic, and such may occur, it would prove the bane of our olive industry.

* * *

INSPECTING FRUIT AND STOCK FOR EXPORT.

The horticultural inspection laws of many of the states provide that no stock shall be admitted which is not accompanied by the certificate of an inspector of the district in which it is grown, to the effect that it has been properly examined and found free from insect pests, and very many of the horticultural commissioners of our own state issue such certificates although there is no law requiring or authorizing them to do so. The object of our horticultural commissions is to protect the counties from which they are appointed and to keep pests out. It does not matter to them how much diseased or infested stock is shipped out of their counties so long as they keep other counties or districts from shipping such stock in. It is a most unreasonable thing for any state to expect us to look after their interests; we have all we can do to look after our own, and it is equally unreasonable that we should expect outsiders to carefully inspect stock which we are to plant. Yet this is just what the horticultural laws of many of the states require. There are some conscientious inspectors who would do their duty in such cases but the greater part would shirk and let the man who received the stock suffer. How such a system of inspection would work is well illustrated by the following account of how it is done in Australia, where there is such an inspection law, and we cannot expect better work in all cases to be done here. This is from "Garden and Field," an agricultural paper published at Melbourne.

"We have our doubts about an inspector unless he is subject to some direct authority. Recently we accidentally witnessed a fruit inspector "passing" fruit for export. Incidentally we may say that "passing" is a very good word and highly appropriate. He was supposed to give a certificate that the fruit was free from disease, and this is the way he did it. The packers had been busy for some hours, and had a big pile of cases ready to go away. The inspector arrived and after greetings said, pointing to the pile, "This ready?" and on being told yes he produced a pad and rubber stamp and dabbed it on the end of each. We said, "What is he doing?" The packer replied, "Inspecting fruit for export to New South Wales." "Is that the way it is always done?" we asked, and the reply was, "Yes, that is the way, but it won't be admitted without his certificate." In the meantime the inspector squatted himself on an empty case, filled his pipe, and smoked while the balance was getting ready, but he never looked at anything. Had we been told this we could hardly have believed it; but that is an exact account of what happened.

By J. W. Mills, Ontario, Cal.

PRUNING DECIDUOUS TREES.

(Continued from first page)

the crop. As the branches become too long and high on these varieties, a few may be shortened each year until the tree is brought into proper shape. If a little light pruning is begun at the proper time, there will never be occasion to do any very heavy cutting back.

No fruit trees should have the small brush that hangs down and shades the trunk, entirely removed. If it becomes necessary to remove it because it contains dead brush, cut to some healthy bud so that it may send out a new shelter to shade the lower part of the tree. We often see persons who are accustomed to pruning in the Eastern States cut all of this brush off close to trunk or main branches. It more often than not means the death of the tree.

The same general rule for starting young apple trees in the way they should go, may be applied to pear trees, though the pear is a much hardier tree and will stand abuse that would kill an apple tree in a short time. Most pears have a habit of bearing the most of their fruit on the outer ends of their limbs some seasons, and especially after a big crop on the interior of the tree. This point should be watched and the trees lightly pruned during such seasons or 90 per cent. of the crop will be cut off in the operation. Heading back the pear should therefore follow the light crop that comes on the outer ends of the trees.

The generally accepted method of pruning French prune trees, is to cut them off about three feet from the ground and allow them to form their own heads. If there be any which show an inclination to form the head in a bunch, some of the shoots should be pinched off before too great a flow of sap becomes directed to that point. By pinching in time, other buds will be forced out lower down and a more even and natural distribution of branches secured. Do not prune them at all after the time of planting and as perfect a tree as it is possible to grow will be secured.

SPARE THE TREES.

Under the above title the Alameda Encinal makes a strong appeal to preserve the shade trees in California country towns and along the roadways.

"It does not seem possible, says the Encinal, that in this day and generation any intelligent man can be found who will deliberately authorize the destruction of trees of any kind whose removal is not absolutely necessary. The immediate cause of the remonstrance is the cutting down of some trees in a public park which are at least a quarter of a century old and were doing no harm, but on the contrary were a distinct addition to the attractions of the place. The only objection was that these trees littered up the ground by shedding their leaves! Truly a cogent argument! Some one should invent a brand of trees that does not shed its leaves and commend it to the Riverside authorities. To chop down a tree in that region for no better cause than that cited is little short of a crime. Instead of cutting down trees no occasion should be lost for planting them, and when once started they should be guarded with religious care. If there is any place in the world where the woodman or any other person should spare the tree, it is California, and especially those sections where they are only raised with such infinite care as in the naturally barren plains and interior valleys."

There are other cogent reasons why California shade trees should be preserved. The more shade trees we cultivate the more rainfall we shall have and the more moisture the earth will retain. In a country needing moisture as much as Southern California usually does, every condition that will bring rain and conserve it ought to be encouraged. Shade trees will bring rain and they will also preserve the moisture, therefore they should be planted, not cut down. Let the coming rainy season see hundreds of thousands of shade trees planted, and each successive winter let them be put out until we bring all the rain we want. If trees grow too plentifully and too big they can be cut down for wood.

The Sacramento County Humane Society propose to prosecute some people in that county for overloading and abusing their horses. They have served notices upon the guilty parties.

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Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

MALLOPHAGA OR BIRD LICE.

Every bird fancier and every chicken breeder is familiar with these bird lice. Linnaeus placed them with the true lice which I have already described, with the bugs in the order Hemiptera. They are, however, very different from the true lice in form and general appearance, and would, from this alone, be separated by most people from the common lice. Like the true lice, however, they pass through incomplete transformations and are wingless. Yet, as we remember, all bugs, including the true lice, have sucking mouth parts, and so the true lice live on blood which they suck from their suffering victims. These bird lice, on the other hand, have biting mouth parts and so eat or bite, rather than suck. Without doubt, they should be separated from the order Hemiptera. They are now generally grouped in an order by themselves under the name Mallophaga. This word means wool-eating and is appropriate from the fact that they often infest sheep and subsist on the wool of these animals. These lice feed on feather, hair and the skin of animals and attack not only sheep, birds and chickens, but many other of our domestic animals. They concern most poultrymen and are often a serious pest in the poultry house. We see, then, that the chicken fancier is troubled with three kinds of chicken vermin or parasites, the mites and common lice already described, and these bird lice. Of course these latter are easily distinguished from the mites, as the latter are rounded insects while these are elongated. The mites, also, when mature, have eight legs, while these, like all insects, have only six. From the true lice they are easily told by their very peculiar form. The head, instead of being narrow, is broad and they are much narrowed just back of the head. Thus they seem to have slim waists, and if insects ever did practice tight lacing, we should certainly be likely to accuse these bird-lice of this pernicious practice. The remedy for all these three pests of the poultry house is one and the same. Kerosene oil is the sovereign cure. As before stated, I would mix this half and half with lard and apply it to the chickens after they have taken their roosts at nightfall. It is kept in a close covered pail that it may be clean from dust and by the use of a glove is applied to the breast, under the wings and on the thighs of the chickens. It should not be applied to hens that are brooding chickens but such hens should never need any such application. Great pains should be taken that they be entirely free from vermin before incubation even commences. The roost poles should occasionally be smeared with the same ointment, while it is wise to spray the entire house and yard frequently with kerosene emulsion or kerosene and water carefully stirred together. Distillate spray would be admirable for this same purpose. It is also wise because of these lice and also for neatness' sake to spray the house inside very thoroughly twice a year with a whitewash so thin that it can be applied with a spray pump. Pyre thrum or Persian insect powder is also much used and with no little satisfaction in fighting these various poultry vermin.

It only remains to be said that one of the greatest causes of failure in poultry keeping comes from these pestiferous lice. Hens worried in this way will never do much egg laying. How many farmers pay no attention at all to ridding their poultry of these disturbers. The poultry use up all their energy in trying simply to endure life. It is fortunate, however, that rolling in the dust helps greatly to mitigate this evil of poultry lice and mites. As most farmers allow their poultry to run in the open they have free access to boundless dust baths and thus are constantly engaged fighting this lice evil.

It will be noticed that I have placed the bird lice and the thrips in separate orders, thus removing them from the group where they were placed by Linnaeus. I think there can be no doubt of the wisdom of this separation and I have little doubt but that the arrangement which I have followed has come to stay. We shall separate thrips from the bugs under the ordinal name of Thysanoptera and these bird lice will continue to be known as Mallophaga. Both of these groups of insects concern our people in Southern California and it behooves both orchardist and poultryman to study carefully what I have said regarding both these orders. The thrips are doing much damage in our orchards while the bird lice are making life miserable in many a poultry yard.

* * *

PHOSPHORIC ACID.

I have been asked several times of late, what would be a safe practice in fertilizing our citrus orchards. The sowing of peas is always to be commended. I am happy to say it is becoming a very general practice in this region. I have been delighted to see the area planted to peas is increasing year by year. This year there has been much more planting than ever before. In most orchards the plants are already well up and will be in condition to plow under before the winter is past. Thus they will decompose by the winter rains and will assuredly show rich results in the coming years. These peas will not only give much needed humus, without a goodly quantity of which no soil can be at the maximum fertility, will also furnish very cheaply the nitrogen which, as we all know, is by all odds the most costly of the fertilizing elements which we must add to our soil. This practice also loosens the soil so that oxygen can gain access and minister to the well being of the countless millions of minute bacteria which are indispensable to every fertile soil. A good growth of any green manurial plant plowed under in February will also increase the moisture during the coming season. So another reason for plowing under a green crop.

It is wise to use stable fertilizer in case it can be secured at figures that will make it pay. This is not very strong in fertilizing element but in adding humus, loosening the soil and fostering the water content, is certainly a wise practice.

In all this, however, we have neglected the phosphoric acid. True, there is a little in our stable fertilizer and there is some deep in the soil which our deep rooting legumes will liberate. Yet there is a scarcity of this valuable element in our soils. Dr. Hilgard has always stoutly maintained that phosphoric acid will be the first fertilizer that the orchardist will need to add to his soil. As I have before stated, treated bone meal or bone superphosphate is perhaps the best form in which to apply this valuable fertilizer. This is readily soluble in ordinary water and thus is quickly diffused in the soil though it reverts so readily that it is rarely washed out and wasted. I think it is unwise to use raw bone meal as that is so inert that it waits long in the soil before it does much of any good.

The next question that is usually asked is "What is the best time to apply this phosphate?" It is certainly a good time at this season of the year. There would be no better time except that it is, perhaps, at this season not easy to get it deeply into the soil. It might be applied later or in early winter after the first rains and then plowed deeply under when it will be placed just where the rootlets can seek it out and profit by its presence. I cannot see how it would be any great mistake to drill it in at this season, for it would be plowed deeply under as soon as the ground was plowed after the first rain. Indeed I take it that it would be no mistake to add phosphoric acid to our soils at any season of the year, except from the fact that we usually plow only in winter and it certainly is wise to place our phosphate away down where the feeding roots can readily lay hold of it.

* * *

STRAPPING THE COW.

Any one who knows my habit knows that I never advocate stooling the cow so no one would ever think that I would ever advise strapping her. Nor would I ever countenance for a moment the using of the strap as a cat-o-nine-tails in the cow stall. But I have taken a deal of comfort in strapping the two hind legs together before I milk my cow. The nervous uplifting of the leg which has long bothered me and which I have suspected for a long time was only nervousness, has entirely ceased. Indeed now she never attempts to lift her foot at all. So that even if I neglect to adjust the strap before milking, it now makes no difference. She seems cured of the habit. This is certainly an easy way to do away with a very provoking habit on the part of some cows. My cow never kicked but only gave a quick nervous twitch of the leg which always kept me on the alert lest the milk be spilled. Of course a careful use of the left arm always prevented this last catastrophe.

* * *

GYPSUM IN OUR ORCHARDS.

I have a lengthy communication from Mr. Routhwaite, Arlington Heights, Riverside, on the subject of applying gypsum as a fertilizer. Mr. R.'s trees have been set twelve years on a stiff clay soil with a few places showing a hardpan. The orchard has had good care up to the present time. Commercial fertilizer has been applied in January, March and August, the fertilizer being high grade in phosphoric acid and potash, but low in nitrogen. Last spring it received a light dressing of stable fertilizer. He has applied a good dressing of mixed cow and horse manure in every other space between the trees and has grown cow peas in the remaining spaces. Before plowing down the manure and peas which he intends to do in December and January, he proposes to apply at the rate of 800 pounds per acre with the manure, fine bone meal and with the peas gypsum. Will gypsum hasten or retard the decomposition of the peas, and will it have any tendency to start trees to premature growth in the spring under ordinary conditions of weather? Gypsum has never yet been applied to the soil except as a filler to commercial fertilizers. If the soil is broken up where there are streaks of hardpan to a depth of two feet by the use of dynamite, would applying gypsum to these places tend to prevent the reformation of hard pan? Straw and coarse litter will be put in these holes.

From Mr. R.'s description, I think the orchard has been well cared for. I doubt if there is any need of commercial fertilizer as such land is usually very rich in the fertilizing element. I should suppose humus was the great desideratum. This will be secured in the green crop plowed under and in the stable fertilizer. These applications will also give nitrogen, which is probably also necessary. Undoubtedly the application of phosphoric acid is wise. As suggested above in another paragraph, I should use treated bone meal rather than raw meal. I doubt very much whether any good results will come from the application of gypsum. I cannot see how gypsum can do any appreciable good in our orchards. There is plenty of lime in our soils and I presume there is no black alkali. Of course in making stable fertilizer of horse manure, adding gypsum prevents the escape of ammonia and is always in order, unless one does as I do, scatter the horse droppings so that they at once dry out, in which case I think the loss is entirely insignificent. I wonder if Mr. R. was wise in using cow peas. These are really beans and so are likely to be injured by frost. Again, do we know that the specific bacillus that domiciles on the roots of cow peas is in our soil? This fact can easily be ascertained by examining the roots and seeing if they are well covered with tubercles. As I have been teaching for the last ten years here in Southern California I do not believe there is a better green fertilizer for orchard use than a good, vigorous variety of field peas. I believe the Canadian field pea stands well in the lead. I should have planted peas.

WANTED—A GOOD LOCATION for Bees convenient to Los Angeles. Address J. H., CULTIVATOR OFFICE.

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Wells drilled in first-class manner from six inches diameter to any size desired. Pumps installed.

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STRAWBERRY PLANTS

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PLANT,

$7.50 PER TON

California Portland Cement Co.,
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Citrus Stock

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RIVERSIDE, CALIFORNIA

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If you are thinking of using fertilizers you will be interested to know that ninety-eight per cent. of our contracts have so far been renewed. This means that we have rendered good service by intelligent direction in the use of fertilizers, and saved our patrons money as well.

Remember, we are absolutely unprejudiced, as we have no interest in any fertilizer, and any general dealer in fertilizers can supply the materials we direct.

THOS. C. WALLACE

DIRECTOR FERTILIZER CONTROL

Phone Main 147 Riverside, Cal.

Coast News and Notes

By R. A. Dague, Cor. Sutter and Sansome St., San Francisco

HORTICULTURE.

Dried apricots have fallen from 10 to 8 cents per pound and sales are slow.

The J. K. Armsby packing house, at Tulare, is packing from 45 to 55 tons of raisins per day.

A rancher says every blackbird is worth $5.00 to the fruit grower as a pest destroyer.

Tulare county sent the first car load of oranges to the eastern market this season.

John Cnopius & Son, of Sonoma county, have made twenty-five different shipments of dried apples to Hamburg.

A few years ago apricot and peach pits were thrown away as valueless. Now they sell at $25.00 per ton. The shell is broken and the meat marketed.

Seven hundred carloads of apples have this season, so far, been shipped from Watsonville. Last year at an even date but 521 carloads had gone out.

Elwood Cooper, of Santa Barbara, has been appointed government inspector of imported goods, as well as to investigate the matter of misbranded fruits.

Prof. E. J. Wickson says the accepted way to treat chestnuts so that they will not become flinty and tasteless, is to plunge them into scalding water as soon as they are gathered.

San Francisco capitalists have purchased a block of ground in Oakland and will proceed to erect thereon a fruit cannery at a cost of $400,000. It will be ready for business next year.

State Entomologist, John B. Smith, of New Jersey, reports that the Chinese lady bug—Chilocorus similis—recently put to work in Atlantic county, that State, has done splendid work on the San Jose scale.

There are about 7500 acres of olive orchards, bearing, in Southern California, not counting San Diego and Santa Barbara counties. The olive men estimate the crop, this season, at 5000 tons.

H. Ruschaupt, near Dinuba, has 20 acres of Zinfandel vines 2½ years old. They yielded him, this season, 110 tons of grapes, and at least twenty tons more went to waste before they could be gathered.

The fruit distributors have sent east at this writing, over 7144 cars of fruit worth about $8,000,000. Of this amount the Sacramento Union claims 90 per cent of it was raised within fifty miles of that city.

Apples below 2¼ inches in diameter are rejected by the packers, says the Lompoc Record. This leaves 200 or 300 tons of fruit to go to waste. The farmers should dry this fruit, or establish a co-operative evaporator as was done at Watsonville.

American fruit is going to foreign markets at a satisfactory rate. One week recently the sales in London amounted to 27,000 boxes or 675,000 pounds of fruit, nearly all of it from California. This year France and England have poor crops of fruit.

Last year Peter Scazighini's raisin vineyard, near Grangeville, Kings county, yielded thirty tons of cured raisins; and this year 26 tons, from eleven acres. The average price he received was $85 per ton. His is the oldest raisin vineyard in Kings county.

Citrus fruit shipments in the year 1903 exceeded all past records in Southern California. During the year, ending October 31, the total shipments were 19,675 carloads of oranges and 2750 of lemons; total, 22,245 cars. The value of the fruit was $10,-314,455.

Horticultural Commissioner J. P. Kelly, of Alameda county, says just now large quantities of limes and lemons are being shipped into this state from Mexico, and that nearly all of them are infected with red scale, and he fears California plant life will be injured by it.

G. B. Katzenstein, manager of the Earl Fruit Company, recently said, "speaking of the summer's work in exporting fruits, it has been a success. The weekly shipments across the Atlantic have been about one hundred car loads. It would surprise some to know the number of letters received from France, Germany, Belgium and Italy asking for California fruits.

Simon W. Hanauer, U. S. Consul at Frankfort, Germany, says that the fruits sent there from this country are not as high grade as the Metz and other German brands. He advises the exporting of better fruit, and adds that the best way to send preserved fruits is to put up in glass jars or tin cans with labels in the German language, explaining just how the fruit is to be served.

AGRICULTURE.

An ordinary freight car carries from 20 to 25 tons of grapes.

The fourth crop of hay this year has been harvested in Tulare county.

The bean crop in the San Joaquin valley is 5000 tons below the usual yield, this season.

The onion crop of the San Joaquin valley this season, is 250,000 sacks. There were 2500 acres planted.

The daily consumption of potatoes in California and Arizona is estimated to be 12,000 sacks.

The almond crop in France is light. The total crop is estimated at 5000 bales, as against 35,000 in good years.

Richard Clayton, of Wooden Valley, this year raised seventy tons of grapes from a five-acre patch of vineyard.

The potato crop of the San Joaquin valley is 20 per cent less than last year. The river and island output is estimated at 1,850,000 sacks.

There are twenty large wineries in Fresno county. The output of wine annually is worth $1,500,000 and of brandy $350,000.

The net value of the grape crop in Fresno county annually is about $2,-500,000. Cost of production, $25.00 per acre. Gross returns per acre about $125.

Farmers can procure samples of garden seeds and farmers' bulletins by addressing your member of congress.

The movement of grape growers at Geyserville to organize a co-operative winery is gaining strength and bids fair to succeed.

The Chino Land and Water Company has purchased a 60-horse-power traction engine to be used in farming their land.

Parties at Red Bluff are negotiating for 200 acres of land in that vicinity on which they will plant Tokay grapes, Partlett pears and Smyrna figs.

Nearly all of the Ukiah valley hops have been sold. A total of 2477 bales were recently disposed of. The prices paid were 19½ and 20 cents.

E. W. Churchill has finished crushing his grapes at Oakville. He got 103,000 gallons of wine—an increase of 23,000 gallons over his last year's vintage.

Nurserymen report to the Cultivator that indications are that a large acreage will be planted, in Central California, to trees and vines the coming season.

The report of the Oxnard beet sugar factory has been made public for the season; 162,000 tons of beets were used. There was paid to the farmers $800,000. As there were 17,500 acres of beets planted, the proceeds of the farmer would average about $46.00 per acre.

Abner Fraser, of Tulare county, got this year, 930 gallons of honey from 90 stands of bees. It was a fine white grade and sold at the top of the market.

Up to the middle of October the total importation of Almeria grapes was 185,623 barrels, the size of the ordinary pork barrel. The grapes were packed in cork dust.

The California fruit distributors, up to October 28, had shipped to the Eastern markets 7144 carloads of fruit, At the same date last year the shipments were 6887.

D. A. PEET.....

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All the latest varieties. LA CANADA, CAL

Citrus Tree Bargains

We have several thousand fine orange trees, leading sorts, for sale at a special rate if taken before Dec. 1st. Headquarters for trees on Trifoliata or frost resistant root.

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ATTENTION! NURSERYMEN!

Do you want

Eucalyptus Citriodora?

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F. H. Disbrow Nurseries

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We make a specialty of growing first-class citrus seedlings and have in our seed beds for next season's planting the best and most complete stock we have ever offered, including the following varieties: SWEET ORANGE, FLORIDA SOUR ORANGE, FLORIDA ROUGH LEMON, POMELO, and the hardy frostproof CITRUS TRIFOLIATA, all having their points of advantage under different conditions, as budding stocks. All our trees are home grown; no "White Fly" importations from Florida. We also have a stock of Valencia and Navel 1-yr. buds, English Walnuts, Loquats, Shade Trees, Ornamentals, Cabbage Plants, etc. For further information and prices, write us.

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THE Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

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STRAWBERRY PLANTS

500,000 plants of all the leading varieties, GROWN FROM PEDIGREE STOCK. Interested parties invited to visit our place and see Brandywine and Belts in full bearing.

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FOUND $7. FOR

A CREAM SEPARATOR that does the work perfectly, AUTOMATICALLY, without power or chemicals, in 30 minutes. GUARANTEED. Agents wanted, either sex. Address TALLEY SPECIALTY CO., Dept. Los Angeles, California.

SAVE MONEY!

Walker's Champion Tree Prop Bracket has been reduced to $16 per 1000 everywhere. Ask your hardware dealer for it. If ordered direct, send cash, and freight will be prepaid. Now is your time to buy the best Tree Bracket in the market.

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157 Penrose St. Riverside, Cal.

East Main Street Pottery Works

Ollas, Vases and artistic Pottery, and Pottery for Floral Plants. Fancy Hanging Baskets and Wall Baskets, Etc., Rose Propagating pots a specialty.

2009 EAST MAIN ST.
Opp. East Los Angeles Brewery Co. Near Avenue 20
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Take East Lake Park Street Car.....

SHADE TREES

We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand

Roses, Palms, Ferns, Vines,
Ornamental Shrubs, Etc.

Write for Catalogue Free

Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
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FINE ORANGE TREES

One-year Buds on two-year roots.

Navels and Valencias

H. M. COLE
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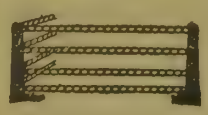
Truss and Cable Wire Board Fencing



For the past seven years, this fencing has been extensively used for general purposes in the Central West and Eastern States. After a thorough investigation, we recommend it to our customers believing it will give better satisfaction than any other on the market. It is strong, durable and economical, and is easily and cheaply erected, requiring no experience or expensive special tools.

Write for descriptive circular.

Pacific Hardware & Steel Co.
401 Mission Street, San Francisco.

Coast News and Notes

CONTINUED

There is a lively fight going on in Santa Clara county, between prune growers and jobbers, which threatens a panic in the fruit business there. The jobbers have industriously circulated the report that there is a great over-production of prunes. This the growers deny, and assert that a conspiracy exists among the buyers to force down the price. The growers are offered but 2¼ cents, and so far comparatively none have been sold at that price.

LIVE STOCK.

Petaluma has the largest chicken ranch in the world. Upon it are 13,000 laying hens.

A determined effort is to be made to secure the national convention of buttermakers for California in 1905.

Obispo county is taking steps to organize a Co-operative Poultry Association, patterned after that of Sonoma county.

A company has been organized at Red Bluff with a cash capital of $25,000 for the purpose of erecting an extensive dairy plant near that town.

On an average one carload of poultry arrived every day all last week, in San Francisco, from Nebraska. The freight charges on those chickens were $300 per car.

All the cows in the dairy of the Ukiah State Hospital have been killed. An examination showed that they all had tuberculosis of lungs, liver and udder.

Within a few months, a plague of chicken cholera killed thousands of chickens in Marin county. The one ranch where it originated lost in a short time 2700 fowls. Professor Ward, vetrinarian of the State University, visited the locality and studied the disease. His treatment has completely stamped out the trouble.

MISCELLANEOUS.

"The Southern Pacific and Santa Fe have renewed their orange shipping combine for the season," says the San Francisco Examiner. The Santa Fe owns 4300 refrigerator cars and has cut loose from the Armour line. The Southern Pacific has arranged with Armour to use 5000 of their cars. The orange growers are to have no voice in routing these cars east. The suit pending between shippers and railroads is tied up for a year in the Federal courts. It is estimated that 25,000 carloads of oranges and lemons will be shipped, the total value of which will be $17,500,000. The railroads will get for shipping $300 per car, or a total of $7,500,000.

A large tract of land has been purchased in Butte county by the Sacramento Valley Land Company for $65,000. It is to be irrigated and put on the market. Neighboring formers are organizing a co-operative company to utilize water furnished by the land company.

Twenty citrus growers of the Lindsay district decided, at a late meeting, that crop picking should be paid for, hereafter, by the hour and a committee was appointed to fix the price of labor. A movement will be made to induce other growers to adopt this plan.

Reports have been submitted to President Ripley of the Santa Fe, in which it is estimated that during the new season just opening, there will be sent East from Southern California, 1500 car loads of celery, 3000 cars of lemons and 25,000 cars of oranges.

There had been a run of 201 days of fine dry weather at San Francisco, when a light shower came November 4th.

The Board of Supervisors of Siskiyou county, has purchased a large farm on which the indigent will be kept, and the able bodied put to work; the proceeds will go to the benefit of the farm and other county institutions.

The Commissioners of Education say the total number of pupils enrolled in the common schools of the United States is 15,925,887. The average daily attendance last year was 10,007,273.

The coinage in October at the San Francisco mint, was as follows: Eagles, $765,000; half eagles, $655,000; dollars, $232,000; half dollars, $24,000; quarter dollars, $84,000. Total, $1,760,000. Philippine pesos, $1,425,060.

Prof. Fowler, assisted by Prof. Clark, Prof. Woodworth and Miss Woodworth of the State University, conducted a very interesting Farmers' Institute at Geyserville last week.

Arthur C. Jackson, president of the Alaska Geological Society, says that Alaska has the grandest scenery in the world and resources sufficient to support 10,000,000 people.

Chicken yards consisting of 60 acres are being fenced off at St. Martin station on the Southern Pacific railroad and the poultry business will be extensively engaged in.

The natural gas well at Ventura is now yielding 30,000 feet of good gas every twenty-four hours. This is 10,000 feet more than enough to supply the city.

An election is to be called, in Fresno, at which the proposition will be submitted: Shall the city purchase the waterworks at their appraised value, $330,000?

The United States government has commenced the work of irrigating 2,000,000 acres of land in Central Washington from the Spokane river.

There are now enrolled in the University of California 2822 students, 32 of whom are taking courses in agriculture and dairying.

The Santa Fe railroad is expending $2,000,000 in filling low ground in San Francisco, preparatory to establishing extensive railroad yards.

November 11th was "Squirrel Day" in Tulare county. Men and boys waged a war of extermination against the pests, with guns and poison.

The Ellsworth drier of Niles has finished the season's work. So far they have shipped 685 tons or 48 carloads of dried fruit and nuts.

Walnuts at Niles, and San Jose, and other Central California points, are quoted at 10 cents, but growers generally refuse to sell at that price.

The late rains were welcomed in Central and Northern California, the crops having been gathered.

Lou Dillon, the Santa Rosa trotter, will be brought to California for the winter.

Almonds at Niles are selling at from 7 to 10 cents.

The season for killing deer expired October 31.

The wool market in San Francisco is dull.

Stockton is to have a starch factory.

WEATHER AND CROPS.

Alexander G. McAdie reports that the temperature during the week was nearly normal, but cooler weather prevailed at the close and light frosts occurred in some sections. Rain fell in nearly all parts of the state except Southern California, and heavy fogs were frequent in the coast districts.

The rain in some sections was sufficient to start grass and soften the soil for plowing, but was generally too light to be of material benefit in the central and southern districts. Late grapes and unprotected raisins were slightly damaged. Grape shipments continue and wineries are finishing up the season's run. Raisins and dried fruits are practically all sheltered. Canneries are still in operation in some sections. Walnut harvest continues, and a good crop is reported in Ventura county; the nuts are of excellent quality in all districts. Olives are in good condition. Orange shipments are in progress in Oroville and Porterville districts, where the yield is reported excellent; Southern California oranges are coloring and prospects are good for a heavy crop. Table grapes of superior quality are abundant in local markets.

Corn picking and potato digging continue and fair crops are being harvested. All other crops are under cover. Plowing has been resumed in many places since the rain and some farmers are seeding, but more rain is needed to make work profitable. Feed is scarce, but cattle are in fair condition. In Southern California no rains have fallen. Oranges are excellent.

The poultry people of Southern California will bear in mind that the famous Midland Poultry Food may be had in any quantity of Henry Albers, the "Largest Exclusive Poultry Supply House on Earth" at Los Angeles. Car load lots are received and distributed from main points in the state. But the house in Southern California which acts as distributor is that of Henry Albers. Besides the Midland foods there is everything in poultry lines. The specialty of this house is the Los Angeles Incubator. Its an old favorite and a reliable machine.

BERRY PLANTS

Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
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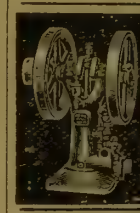
W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal.

150,000
Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

F. P. Baldosser, Covina



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Long stroke, steady movement, runs smoothly, perfectly noiseless.

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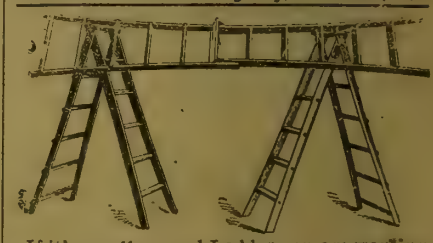
Will You Sell Your Home? We deal in exchanges and sales anywhere in the United States. Our proposition is attractive. Write for it. Now is the time' SOME ONE OWE YOU MONEY? Our collection department is fully equipped for handling your claims. No collection, no fee. Our down to date business methods, our advertising and our success for others means success for you.
Riverside Mercantile Agency, Riverside, Cal.



If it's an all around Ladder you are wanting our "ACME EXTENSION" can't be beat. A double Step Ladder and a Straight Ladder combined. Built of best spruce lumber, every step bolted and riveted throughout, with new automatic lock. Circular free.

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THE EMERSON DISC PLOW

Superior to All Others

This plow is better constructed and has more adjustments and is adapted to a greater variety of soils than any other disc plow.

Has steel beams, adjustments are simple, is ball bearing, and will turn square to right or left.

Descriptive matter mailed on application.

NEWELL MATHEWS CO.
200 N. Los Angeles St.
Los Angeles Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

BUTTER-MAKING AND BUTTER-MAKER.

The subject of this true story had been making butter for over 18 years; not all this time in the little village of B——, but he had been in the latter place eleven years, and had tried to perform his work in a satisfactory manner. The B—— factory had never paid fancy wages, like some of the factories he had read about, but what could he expect? His butter had never won the grand sweepstakes at a National convention, nor had it even carried away the high score at a state convention or state fair. In the little left-hand drawer of the bookcase at home were a number of letters from people who had received his butter during all these years, and in every one of them they praised the butter up and informed him that it always commanded the highest price. But still he was not known over the dairy world like some of the fellows he read of in his dairy paper, and how should he expect a big salary with only letters in the drawer to show that he had been a faithful servant? His bank account, in consequence of his not being known and getting a big salary, was very small, for he had not been able to accumulate very much of this world's goods. For some reason or other the month's salary went very fast after the 20th of each month, the usual pay-day; most of it went to pay little debts contracted the month previous.

There were only three children in the family. There had been another, a little golden-haired fellow, who used to come down to the factory and with those big blue eyes watch the big churn go round, but one day he failed to meet his papa, and the next—well, it is the old story—a little vacant trundle bed—and a few more sorrowful lines in the father's and mother's faces. To the other three he was trying to give an education so that they would be able to take care of themselves—and perhaps their mother also, and as all of these things cost money, it was very easy to get rid of the dollars, as so many of us have found out ere this.

Things had not been going just as smoothly in the factory as they had in the past. There was something wrong, but his wife said he just imagined it. But no; he knew the patrons, especially those who were directors, had been noticed talking together out in the yard in low tones, and this was something that had never been known before, for the butter-maker had always been taken into their confidence. Perhaps he did imagine that something was wrong. At any rate, he would lay it to his imaginations.

He could not think of anything he had done to cause the directors to consult with one another without telling him what the trouble was. He was making just as good butter and just as much of it as ever, only he had kept the helper longer this fall than ever before, for he did not seem to get through with his work quite as quickly as he used to; but then he was not quite so young and spry as he was once, and now occasionally a pain would catch him in the shoulder or arm. He knew this was the result of working in the wet so long, but he paid very little attention to it, for he expected to make butter very many years yet.

A few weeks passed along and the annual meeting came and the directors met in the little office in the corner of the factory, as they had many times before. The butter-maker had got all the work done, and had taken his day-book in to them to look over, just the same as he had every month for 11 years, and was turning to go out when the president asked him to wait a few minutes. He sat until one of the directors rose to his feet and in a very neat speech told the poor butter-maker that they had decided that a younger man would be better for them; that he, the butter-maker, was getting old, as he probably realized, and that the directors had concluded that they could not afford to hire a second hand; and while they regretted to part with him, still, for the good of the factory, they must do it. He was told that his resignation would be accepted at any time to suit his convenience. They voted him a fine recommend and hoped he would find a good situation where the work would not be so hard.

The butter-maker sat as one stunned. He could not say anything, for the seemed to feel a choking sensation in his throat; the announcement had come like a thunderbolt to him. At last he rose, and, saying good day to the board, he went out—to the engine room to think it over. Poor foolish fellow! He had never realized that he was getting old; that the hairs in his head were nearly as gray as his good wife's and to tell him bluntly that he was too old to continue to work for them, after he had given them the best eleven years of his life, was very cruel on their part.

The hardest part of it, however, was to come yet, and that was to go home and tell his wife all about it. It would be hard to leave the little village where they were so loved and respected by all the people, and besides, the little grave over in the corner of the churchyard would be negelected after they had moved away.

Some way he got home and told his wife about it, and after they had talk it over they felt better. We have all had this same experience. With her help and wise advice he commenced his plan to move.

It was only a few days when the news got out that the butter-maker had been discharged, and then such a wave of indignation went through that Christian community that a meeting of the shareholders was called and a petition was circulated to reinstate the old, gray-haired butter-maker and to give him a helper all winter, and it is needless to say that it went through and the faithful butter-maker and his kind wife are still where they can plant a few flowers on the little mound and attend the same little church by the side of it, and all because the patrons of that factory were Christian men and women, and loved justice and did not believe in wronging one of their fellow citizens. —C. F. Leighton.

MILK AND BRAIN POWER.

At a public meeting held at Palo Alto, seat of Stanford University, to discuss the movement to establish a sanitary dairy on a co-operative basis as a means of securing pure milk for the town, I. P. Roberts of Cornell University, one of the most noted authorities on agricultural affairs in the country, was present and delivered an address on the relation of food to mankind. The address was very interesting, acording to the synopsis given by the Palo Alto Times, from which the following is taken: He spoke of the effect of food upon civilization, showing that those nations which used the most concentrated foods, which give a reserve of mental power, have attained the highest civilization. The Americans lead the world because they use more milk, butter, sugar, fruit and wheaten bread than any other nations. The Turk, for instance, uses only one-tenth of the sugar and one-fortieth of the butter that Americans use. No savage or barbarian people can be civilized until their food is improved. Neither can breeds of animals be improved without care in the food used.

Milk and butter are the most perfect foods, giving, in concentrated forms that are easy of digestion, all the elements needed. Butter, he said, is concentrated sunshine, and sunshine stimulates, as may be shown by the superior physical appearance of Californians.

Dr. Roberts showed plainly the necessity for the use of milk as food, and for the utmost care in producing and dispensing the milk.

He spoke of the difficulty and danger that had arisen at Ithaca through an epidemic of typhoid. The prosperity of Ithaca depends upon Cornell, and if students fail to enter the university the town is injured financially. The prosperity of Palo Alto was closely linked with Stanford, and if conditions should arise to keep students away property values would be decreased, and the town would retrograde. It was therefore important to use the utmost care to prevent unsanitary conditions. —Dairy and Produce Review.

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IT ALWAYS PAYS.

A stock raiser asked the editor of this paper, the other day, "Will it pay me to invest in a pure blood bull and a few pure blood heifers?"

Our answer was a prompt and emphatic, "Yes." However, this will not do under all circumstances and the answer depends on what kind of a person it is who contemplates buying pure bred stock. The editor of this paper has been a breeder of pure bred Herefords for many years and can speak from experience. Every man is not qualified to raise high class cattle, and success in stock raising depends as much, or more, in the man than in the breed sought to be raised.

If you are going to raise high class dairy cattle, you must give them high class attention; you cannot let them hustle for themselves like you can scrubs. If you do, you will surely come to grief and perhaps the conclusion that pure bred stock is inferior to scrub cattle. While this would be an erroneous conclusion to arrive at, it would no doubt be a logical one under the conditions of management. If, on the other hand, you are a good cattleman, willing and able to take proper care of your stock, put brains into your business, and study your animals every day of your life, so that you may know every individual cow then feed her to her utmost capacity, but nerve overfeed her, never let her suffer from the effects of weather, and you have a good eye for business, for advertising your dairy product and your stock and let the people know that you have something superior, then we say, by all means it will pay you to raise pure bred stock.

There is one thing, however, that the Cultivator can recommend: the keeping of a pure blood sire. Any cattleman with common sense can keep a bull and keep him right. The article we printed recently in this paper on "How to Care for the Bull," ought to be read and reread by every dairyman in California, and then, when thoroughly understood, the rules laid down in that article should be followed to the letter.

As a general proposition we say, it will pay every cattle raiser to use pure bred sires; they improve the herd, bring up the average price of each calf and, in time, raise the owner in public estimation—for we all have respect for a cattleman who has a fine breed of any class of cattle. It must be remembered, however, that pure bred animals, to get the best out of them, must be better cared for than the average farmer cares for his cows.

To keep your herd up you must earnestly be weeding out the poorest, just as you constantly select the best corn in your field for seed the next year to keep up the standard. All the best breeds of cattle today before the country have been brought to their excellence by the study, painstaking care and patience of men who were interested in high class breeding for results. This is as true of beef cattle as of dairy, and it is just as true that results show in breeding beef cattle as in dairy. So we say buy pure bred bulls, whatever else you do, for "as you sow, so shall you reap." As you breed so shall you get results. This is true in the hog line too, just as true as it is in cattle raising. A good boar will pay his purchase price the first litter. Here let us quote the advice of the editor of the Des Moines Tribune, himself a practical farmer. He says:

"Procure a good registered boar of good individual merit and breed him to your best brood sows. Select the breed that suits your fancy best, and stick to them. The best is none too good in any line, but what we want to impress upon our readers, is that the best, to do their best, should have the best of care. If you are going to give only "scrub" care to your live stock, scrub animals can stand more of it than choice pure bred animals."

As said above this rule is as valuable when applied to cattle as to hogs.

HOW GERMS GET INTO MILK.

From Bulletin No. 152 of the New Jersey Experiment Station, U. S. A., we take the following extract:

"In the first place, a good many germs are living in the milk while it is yet in the udder of the cow, and in the next place, a good many more fall into the milk from those floating in the air, being caught in the streams of descending milk. Still others are introduced clinging to the particles of dust, dirt, hair, chaff, etc., that become loosened from the udder and adjacent surface of the cow, and from the hands, arms, etc., of the milker, and from the whisking tail of the animal. It is the presence of numerous particles of this sort which is responsible for the general practice of straining milk. But no strainer is fine enough to retain the smallest particles, and least of all, the germs that have been washed out of the particles. In those dairies where the practice of keeping cows and stalls thoroughly clean has not been adopted, the dirt that most frequently gets into milk consists of particles of manure. The presence of even a little manure imparts to the milk the pecular flavor called 'cowey,' as though it were the distinctive odour of this domestic species. But this flavour is quite distinct from the odour of new, pure milk (also found in the cow's breath, over which poets have raved in ecstacy). In these days of 'modern dairy progress,' the production of 'cowey' milk is both inexcusable and reprehensible. Milk has a strong attraction for odours and readily absorbs any predominant odour of the air, etc., it is in contact with, hence it is not strange it extracts the odour of the dirt that falls into it. In fact, if the milch cow's food has any peculiar flavour it affects the milk. These various disagreeable flavours in milk are of less consequence than the fact that milk receives the germs that inhabit the dirt which gets into it. Of all dirt, manure is the richest in germ content, and what is even more important, it contains germs that are parasitic in the intestines and hence are liable to produce disease."

GOATS AT THE WORLD'S FAIR.

Chief F. D. Coburn of the World's Fair Department of Live Stock has received an application from John W. Fulton, Secretary of the American Angora Goat Breeders' Association, for a date for a public sale of Angoras under the auspices of that association, during the period of the display of goats at the Louisiana Purchase Exposition. The World's Fair classification gives the Angora goat much larger recognition than has been accorded to it at any previous show, allotting to the breed $3,410 for 133 cash prizes. It is possible for a single buck to win $230, and to aid in winning $320 additional, of Exposition money, together with diplomas, special prizes, etc.

The condition in which butter is sent to market often determines the question of profit, or loss. Although, sometimes it may be of inferior quality yet if put up in nice shape it will be acceptable to the dealer and usually to the customer.

DRYING OFF COWS.

In the current number of Up-to-Date Farming, a writer discusses the difficult question of drying off the dairy cow. The method suggested possesses much good sense and the advice given is practical. It is the practice in the main we have followed for a good many years with excellent results and the Cultivator would recommend a careful reading of the article here quoted:

"In well-regulated dairies, each cow is milked 10 months of the year; the remainder of the year she is said to be "dry." When the dairy man supplies milk to customers he endeavors to have a small part of the herd dry at a time, so there will always be enough cows to supply his trade. An incidental advantage of this is, the milk from fresh cows is added to that from those more advanced in the milking period and the changes due to the change of lactation are avoided in the mixed milk which is thus kept of uniform quality. As the period of lactation progresses there is a tendency to gradually increase in the total solids. At the New York station the yield was found to decrease quite steadily from the time the cow is fresh, to about the middle of the lacteral period, after which it is quite constant. This shrinkage in the yield was accompanied by an increase in the percentage of fat, and the physical condition of the milk was so altered that the cream rose less easily.

Discard every cow that goes dry on her own notion. While she should be dry six or eight weeks previous to calving, she should be forced dry. She ought to be giving at least 16 pounds per day when you start in to dry her up.

Ten weeks before calving cut off all grain from the cow and if in winter, also silage; after a week of this treatment milk her once a day and another week every other day. Then stop short; you must stop sometime, for if you continue to milk, the cow is bound to respond. Sometimes two or three days after stopping if you find the udder caking, milk out a little to ease it up, but generally this does not happen.

At six weeks to calving, she should be thoroughly dry. The trouble is with most farmers they continue to milk the cow regularly until within four weeks of calving; at that time the cow has begun to freshen, and if they stop then, trouble ensues from the new milk forming and the udder is likely to be spoiled. If the cow is not dry for four weeks before calving, better keep on milking the rest of the period. I am satisfied you can get more pounds of milk from a cow by milking her 10 months in a year, than by milking her 12.

Remember, if the cow continues to secrete milk it must be drawn. None should be forced to "go dry" against manifestly natural resistance to so doing."

The Santa Fe announces that as soon as the 250 mile cut-off is finished near Belen, N. M., they will run trains from San Francisco to Chicago in 2½ days.

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KINDNESS TO THE HORSE.

Says a writer in the Farm Journal:

"My horse knows me as far as it can see me, and as I leave the wagon will look after me and watch for my re-appearance; then, if I wave my hand will come to me. Will your's do that?"

Right in that short paragraph lies a principle—the principle of kindness.

That principle is a harbor of safety for some men. Others avoid it and wreck their fortunes on the rocks of unkindness and spiteful usage. A boy once said to us:

"Father always speaks to the horses, the dog and me as if he couldn't bear to have us round."

Think how much that man missed in the kindly loyalty of boy, horse and dog.

What is the matter with some men on the farm? They strike and scold cattle and horses and boys and everything else that dare not strike and talk back. And yet they are not unkind men at heart. Let a neighbor be in distress and they will do anything to relieve him.

They have got in the habit of loud speech and rough usage. It is costing them money every day, but they don't see it.

Think how many weary steps that man whose words serve as our text, saved in catching his horse in pasture. Then, besides, does anyone think the animal did any less work for loving his master as he did?

It is of especial importance that we deal kindly and gently with the cow if we expect the best possible profit from her service. The shrewd, far-seeing dairyman studies how to promote the comfort and contentment of his cows. "He knows where his bread is buttered." He keeps his mind alert to know what cow comfort is. For this reason he is gentle, quiet and patient, even with a fractious, ill-tempered cow. He banishes the cramped, confining stanchion; the deep and dangerous manure gutter; the crowding of cows uncomfortably and unhealthfully together in the stable. He has clear convictions as to what constitutes a well lighted, well ventilated, clean, healthful stable room.

Through all his management runs this principle of kindness, not only because it is the humane thing to do, but also because it pays.

In no other way can the boys, the hired men, the cows, the horses and all the animals or life of the farm be made to feel contented and happy on that farm. Every owner and manager of a farm should remember always, that he is the prime source from whence proceeds the spirit and atmosphere of that farm. He is to decide whether it shall be a genial, kindly farm life or not. And in no other way can it prove a truly successful, happy farm life for him and all concerned.

HOG NOTES.

Proper sanitary conditions about the swine pens and yards are the best preventative against hog cholera and diseases incident to hogs.

Young pigs should be kept growing and making bone and muscle. If this is done, fat can easily be placed on them at a profit most any time.

The stunted pig is a losing proposition nine times out of ten. A little care with the young pig in the beginning will save dollars in the end.

It is quite an item to commence feeding pigs early, in order to have them well accustomed to eating before cold weather sets in. When the sows are fed on slops in a sunny trough, pigs will often commence eating when three weeks old, and with a little care to supply them with mill feed worked into a slop with sweet milk, they can be kept growing steadily and may be weaned without any check in growth.

THE CARE OF CALVES.

One of the most serious faults of the average American farmer is his lack of knowledge and determined purpose in the care of young stock, writes a specialist in Hoard's Dairyman. We judge of a man's understanding of any question by the way he does his work. Look over the calves at three, six or twelve months of age in nine out of ten of our American farms. Note their unthrifty, scrawny, ill-fed looks, and then judge what must be the real knowledge possessed by their owners. Some will say that the owners of these calves do not do half as well as they know. In our opinion that is not the fact. The real difficulty is that they do not half know what they ought to know about these things and consequently their work is half done. They have never resolutely set themselves to study what it means to rear a calf well. When a man is thoroughly saturated with the knowledge of a thing it holds him up to better work.

In March last two men came into this neighborhood looking for grade dairy calves, says a correspondent of Hoard's Dairyman. They were the men who knew what they wanted. They purchased seven grade Guernsey heifers, dropped last fall, of one man and paid him an average of $24.28 for the lot. At the same time they said they could purchase calves of the same breeding and age of neighboring farmers for from $10 to $15 apiece.

What made the difference in price? Simply the way the calves were handled. The seven calves were handled as follows:

1. They were kept dry and clean with plenty of fresh dry bedding every day and their quarters were kept well disinfected.

2. They were fed skim milk, fresh from the separator, after the first ten days, with a little ground flaxseed and blood meal added.

When the milk was fed they were put in stanchions and the milk set before them in pails. Afterward they were given a small feed of oats, followed by alfalfa hay. But the great care was to keep them dry and clean. As soon as they were through eating their oats they were let out of their stanchions and ran together loose in the compartment. They were fed milk morning and evening. When sold they were in fine, clean, thrifty condition, but not fat. They consumed apiece in the six months they were kept about 3500 pounds of skim milk, $1 worth of oats, $2 worth of alfalfa hay and flaxseed meal and 50 cents' worth of blood meal.

After paying for the oats, hay, flaxseed meal and blood meal, $3.50, and allowing $3 for the value of the calf when a week old, the price allowed by calf buyers—we have $17.78 per calf as pay for 3500 pounds of skim milk and the labor.

Hoard's Dairyman, a very able paper devoted to the live stock interest in all its phases, prints, in full, with fine illustrations of her barn, Mrs. Minnie E. Sherman's article on "The Dairy Cow" read at the Seaside Institute. The paper was one of the strongest read at the Institute and has been published in full in the Cultivator.

WORLD'S FAIR POULTRY SUPERINTENDENT.

T. E. Orr, Secretary and Treasurer of the American Poultry Association, has been appointed superintendent of Poultry at the Louisiana Purchase Exposition under Chief F. D. Coburn of the Department of Live Stock. Mr Orr has already begun active work, and will devote considerable time during the winter at poultry shows and meetings and elsewhere among leading fanciers in behalf of the World's Fair poultry show.

Poultry, pigeons and pet stock are placed in Division "E" in the World's Fair classification and have been allotted over $16,000 for cash prizes. The dates for these shows are October 24 to November 5, 1904.

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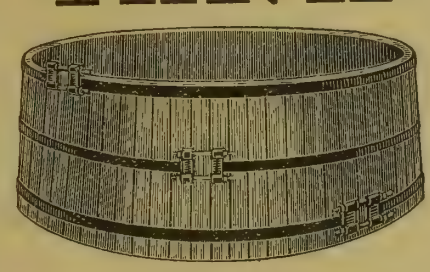
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SOWS—MODEL PRINCESS, 60134, first prize two-year sow, Pan-American, '01. FASHION 60133, weighs 1000 lbs. in show condition. The greatest brood and show living.
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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

AMERICAN POULTRY INTERESTS.

In a recent communication to the members of the American Poultry Association Mr. T. E. Orr, secretary, gave some very interesting suggestions, among which were the following:

Talk to the chairman of your local farmers' institute and urge that the subject of poultry be given proper recognition on the program. Help him to provide good speakers. Consult your State Secretary of Agriculture with a view to having able poultry speakers sent out to the various sections of the state. Urge the directors of your State Experiment Station to give as much attention to poultry as is given to many less important subjects.

Another suggestion is that specialty clubs reinforce the regular cash premiums on poultry at the St. Louis World's Fair with liberal club specials, either in cash, medals, cups, diplomas or badges.

The secretary says the new Illustrated Standard will not be ready before August 1, 1904, and that the Standard of 1903 "is the law of poultry down until the new one is published."

In closing his circular the secretary calls to mind these facts:

1. That the poultry product surpasses every other agricultural product except corn.

2. That there is a constant demand at good prices for first-class poultry and fresh eggs. With us live hens brought 16 cents per pound in May, and we are now selling eggs at 24 cents per dozen wholesale.

3. That the general public needs more information on the subject of breeding, rearing, feeding, exhibiting and marketing poultry.

4. That fancy poultry interests and commercial poultry interests advance or decline together.

FOWLS FOR THE TABLE.

The Brahma has the frame and build for laying on large quantities of meat, but it is deficient on the breast, caused by the fact that it is bred to remain near the ground instead of flying. The Game, on the contrary, being a very active and vigorous bird, is well developed on the breast, and having small bones and large muscles, it is an excellent table fowl. The standard exhibition Games are not referred to here, although they are not entirely deficient but those Games bred exclusively for the pit. Being trained and developed for strength, those characteristics are inherent in their progeny, and render them an excellent breed of fowls.

When crossed on the Brahmas, they combine quality and size, and though not such high flyers as the pure breeds, they possess the good quqalities of the Games, with the weight of the Brahmas. In breeding for home use, these points should not be overlooked. Under no circumstances should quality be sacrificed.—Farm and Fireside.

Milk, when fed to hens, is more profitable than when fed to pigs; they never tire of it and it is relished by them in any form.

BREAKING UP BROODY HENS.

Ask an old farmer the best way to break up a broody hen, and ten to one he will tell you: "Shut them up and starve them, or duck them in cold water; throw them as far as you possibly can every time you come near the nest; tie a rag on their tails, or build a frame where they must stand on a roost, with no chance of setting down." A short time ago I heard a new way, and, as I have tried it and found it worked well, I will give it to your readers:

Remove your hen from the nest carefully—and here is a point which it is well to follow at all times: Always handle a hen as you would a child, with care and consideration, as they are tender things, and jerking affects their nervous system just as much as it would affect your child to grab it by the arms or legs and swing it over your head once in a while. That is something which many people, and even men and women who hvae made a study of the poultry business for many years, do not know, or else they do not care to know. But, to return to my subject: Take the hen carefully from the nest, place her in a comfortable place, but in altogether new surroundings, where there are no nests, and do not starve her by any means. On the contrary, feed her on all the rich, concentrated foods she will eat, and especially see that she has some kind of animal food—green cut bone is about the best for this. Be sure she has plenty of grit, some green food and water. Do not forget the last, as what we wish to do is to get this hen in laying condition again, and in order to do this she must have plenty of good food and water. Before long we find our setting hen has renewed her entire constitution; that old broody feeling passes away, and she feels like getting out and enjoying the air, and will soon be laying again.

The reason this process acts so well and so quickly is that a hen after laying a large number of eggs becomes worn out; her constitution has stood a heavy drain all winter, perhaps, and she feels a desire, a very natural desire, to sit, because it is the nature of the hen to sit and raise a brood of chicks at least once a year. By raising this brood she rests herself, and that is why she is usually in such good condition when winter comes. I have heard showmen say that they like to have their hens sit, as by doing this they rest up, and in the winter when the show season comes on, instead of having an old fagged out hen who has been forced to lay most all the year around, they have a hen that has had her natural rest, and she is in good condition to show. About this latter I am not much of an authority, but I do know that a hen can be broken from being broody by feeding carefully and changing her quarters. She will be laying quicker under this treatment than any other, and, in my mind at least, it is the best I have ever tried, and I have tried several other humane ways.—Patience, in the New York Tribune Farmer.

CHARCOAL FOR POULTRY.

Charcoal is used as a disinfectant and purifier in many ways, and as yet no substitute has been found for it. For poultry it is, while not strictly speaking a necessity, a specific for all forms of indigestion from which poultry, both old and young, so frequently suffer.

One of the best ways to supply it is in boxes, just as grit and oyster shells are supplied. Let it be good charcoal, such as used for a furnace, broken small but not crushed to powder. Set the box in a dry, clean place and let the fowls help themselves, as their natures demand.

Strange as it may seem, fowls are endowed with an instinct that enables them to take that which nature requires for their health—that is, provided they have access to it.

They will eat grit, oyster shells and charcoal just as needed, and no more. The grit will masticate their food, the oyster shell furnish the material for shells and the charcoal will aid the digestion and keep pure the contents of the crop.

E. B. Runyon is opening up a fine dairy farm near Hanford.

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and ALMANAC for 1904

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EXTENT OF THE INDUSTRY.

The production of poultry and eggs is an important item in rural income in every section of the country, but the facts brought out by the census of 1900 show that poultry enthusiasts have greatly exaggerated the relative importance of their specialty. Occasionally, paragraphs have gone the rounds of the press, comparing the annual value of poultry and egg products to that of wheat or cotton, and in extreme cases to annual sale of hogs. The census data show that while such comparisons are unwarranted, the total value of the poultry business reaches a sum that entitles it to rank high among the resources of the farm.

The total number of chickens in the country June 1, 1900, was reported at 233,598,085, against 258,871,125, ten years earlier. This comparison, however, is inaccurate in that the census of 1900 excluded from the enumeration chickens under three months old. a very ill conceived form of schedule in view of the fact that this age limit bars out the greater part of the spring crop. The production of eggs in the two census years furnishes a fair indication of the relative position of the industry, 819,722,916 dozen in 1890 and 1,293,819,186 dozen in 1900, an increase of 58 per cent in the decade. Part of this may be properly credited to improvement in breed and laying quality of fowls, but in the main it represents growth of the poultry industry. The total value of poultry on hand when the census was taken was $85,794,996, but the value of that raised during the year was $136,891,877, the amount sold or disposed of during twelve months largely exceeding the amount on hand at any one time. Taking this as representing the value of poultry sold or consumed during the year, together with $144,286,158, which represents the value of a year's production of eggs, we have a total of $281,178,035, representing the annual value of poultry and poultry products.

The poultry business is now just coming under the influence of the same conditions which have so radically revolutionized the meat industry in the last twenty-five years. Cold storage and refrigerator transportations are opening possibilities in poultry production and distribution that will tremendously increase the importance of the industry in the next decade. Under old conditions poultry consumed in any section of the country was of local production, as chickens bear long live shipment but poorly. With the application of refrigeration will come a change, both in production and distribution. Production, instead of being confined to localities in ready touch with markets, will concentrate in the districts where poultry can be produced most cheaply. In other words the center of production, as in the case of beef, will be near the grain fields and especially in the corn belt. Another change will be in the direction of production on a large scale instead of chicken raising as a mere incident to farming. In the past chickens have either been shipped alive to market centers, to be killed just before being offered to the consumer, or killed on the farm and shipped to the commission man for immediate disposition. From an economic standpoint either method is wasteful. The by-products in the shape of feathers and offal are practically wasted.

Chicken slaughter on a large scale is already practiced at western points like Chicago, Omaha and Kansas City, where Armour and Swift and other great meat-packers are engaging in the business, with their wealth of money, experience and facilities for distribution. On the scale on which these operations are conducted, the chances for economy in utilization of by-products are so great that these operators can offer prices for chickens which cannot be met by local buyers or commission shippers, and this class of poultry handlers are destined to pass out of existence, just as the local butcher passed away, and for the same reason—inability of the small operator to equal the large in economies of production. These big concerns have regular routes over which chicken cars are run at stated intervals, gathering up fowls from local buyers. The slaughter is continuous, without regard to immediate market demands, the surplus being stored in refrigeration to be drawn against at those seasons when the supply of live fowls is small. This tends to equalize conditions throughout the whole year, avoiding the succeeding periods of glut and scarcity that alternately followed each other under old conditions.

This new branch of the packing industry will furnish, as in the case of cattle, a steady market for all grades of poultry in any quantity and at all times, and the result will be that poultry-raising in the middle Mississippi and lower Missouri valleys will be carried on on such large scales as to make "Chicago" chicken as well known as "Chicago" beef in the dietary of America and Europe.—Country Gentleman.

QUALITY THAT COUNTS.

There are many qualifications that one may possess that really go for naught when calculated in the scales of value for or against better things. This is true to a large extent with our poultry of all kinds. Of what real value in the world of poultry is the pea fowl? It has beauty that attracts, its tail feathers may be made use of for decorations or for brushes; beyond that it is merely an ornament or curiosity. Within the year we have seen both young turkeys and the young of the pea fowl in the same brood attended by the mother turkey hen. We have also seen the pea hen with a brood of seven of her own young; her quality of being an ornament and a curioity was strong in this case simply because she had succeeded in having a few young of her kind.

The possession and exhibition of Game fowls is largely on the increase. We have seen more of them the past season at exhibitions than ever before. There are no better fowls for eggs and table purposes. Good specimens will always sell at money-making prices for the pit. Those who grow them of the best quality always make money from selling them, but the very qualifications that make them so valuable for the pit count against their being made use of to any extent as general purpose fowls. They are so very quarrelsome that few can be kept together. Their vicious nature prohibits their being kept with other fowls, their money value debars them from all utility uses and in fact isolates them from all other poultry. Where they are kept they must be separated almost like wild animals. Their qualities place them in a class by themselves; the very use to which they are put for profit places them under the ban of the law, and to take them about attracts suspicion. Such qualities as these prevent Games of all kinds from being generally popular.

The Indian Game is a modern improvement over the Pit Game. They are not so pugnacious; they may be kept together about as well as other fowls; the males are more quarrelsome than are others, but even they will grow together without continual warfare going on. They give fine table meat, but unlike the Pit Game they have the yellow skin, while the Pit Games generally have the pinkish-white skin that insures meat of the same color and of the finest quality. On the other hand, the Indian Game will rank with our American breeds, and while so much is written in their favor, they have no qualities that place them above our American fowls in any way. This in no way detracts from their value, for the American breeds rank high as table poultry all the world over. It is quite enough to be as good as they are.

The actual value of products must be decided in the open market, and a claim to unusual value that is not substantiated through this channel goes for nothing. If it can be shown that any one breed or variety has a demand in the meat or poultry stall above all the others, then a real value over all will be established. But so long as this is not the case, it is quite as well to take a position in line with other good ones and be content. We hear so much of the value of cross breeds for table purpose, but we are compelled to admit that we can select quite a number of regular breeds or their varieties that fully equal or excel any of the cross breeds we have ever seen. We have tried many of them; all the advantage we have seen in crossing is that in some instances the product of the first cross makes a quicker and larger growth. But all that is gained in this way is sure to be lost, providing these cross breeds are bred together or with other fowls. —Country Gentleman.

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The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices. G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.

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On account of the health of a relative I wish to sell my home, "The White Plume Ranch," one and one-half acres of land, between Los Angeles and Hollywood, with the good will of the business, prize winning fowls, ducks, turkeys. It is income-making property. Apply on the premises.

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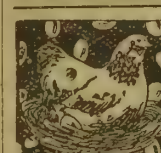

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MADE BY PETALUMA INCUBATOR CO. PETALUMA, CAL.

Largest Citrus Seedling Nurseries in the World.

A VISIT BY A CULTIVATOR MAN TO THE NURSERIES OF F. H. DISBROW OF PASADENA

To those who have not followed the growth of the orange tree from the seed to the bearing tree, and even to the nurseryman who has watched this growth, there may be something of interest in referring to what is probably the largest orange seed-bed in the world, and to the manner of handling the seeds and the young plants.

It was the pleasure of one of the

On the Home Place.

Cultivator men recently to visit this large seed-bed which is located in the outskirts of the City of Pasadena, north and east of town, and is the property of F. H. Disbrow who has followed the business of producing seed-bed stock for the past twelve years. He has also grown budded trees for orchard planting but the bulk of his business is simply in securing the seed, planting in the specially prepared beds and raising to one year old, when they are disposed of in large quantities to nurserymen. This year his production will be larger than ever before, and as to quality, certainly finer seed-bed stock is never seen. There is nearly one acre of ground covered by the lath house in which the plants grow, and to say how many thousand of them there are, would be merest guess work. The Cultivator photographer tried to get a good photograph which would give an idea of the immensity of this production and the quality of the plants, but there is so little of prominence in the mass of the plants which appear in the photograph, as much like alfalfa as anything, that it is impossible to show in the half tones a picture which has much interest.

One must really make a visit to the place in order to appreciate the quality of the stock. Many of the plants are six inches in height, others a foot and some of them have already made two feet of growth above ground and are almost large enough at the base to bud even at this time.

In variety, Mr. Disbrow has the ordinary sweet, the Florida sour, pomelo, trifoliata and the rough lemon. These five varieties each have their friends, the Citrus Trifolita being the latest claimant for favor. And while it has been supposed by some to be a dwarf variety, in reality it must be said, in Mr. Disbrow's seed-bed the strongest and largest growing stock is the trifoliata. This particular variety is a Japanese deciduous tree which bears fruit of no value whatever, but of it it is claimed that its being deciduous compels the orange tree to be nearly dormant at that season of the year when frosts are most liable to injure. This is claimed to make the tree far less liable to injury by frost than the ordinary sweet and polemo root which is that of a natural evergreen tree thus liable at any season of the year to be producing strong growth. The trifoliata has been thoroughly tested with most satisfactory results in Florida and is rapidly growing in favor in California. Trees budded upon this stock are somewhat smaller than upon other roots, but are by no means dwarf. It is well known that trees budded to this root bear younger and heavier and with the slightly dwarfing habit permits of the trees being planted closer together in orchard. These three factors will doubtless make up for any difference in size, and if other features are more desirable than the other stock, it is surely worth the trial. Being very thorny it makes the best of plants for hedges.

G. L. Taber, a large grower and nurserymen of Florida, says of this stock:

"Unlike most of our cultivated citrus fruits, this is not a hybrid, sport or derived sort, but a primitive, wild species, reproducing itself practically without variation from the seed. It is a native of Japan, where it grows wild, and has long been used as a stock for cultivated varieties of the orange. It is deciduous, has dark, glossy green trifoliata leaves, and is thickly studded with stout thorns. Its habit of growth is peculiar, being very angular and distinct. It is entirely hardy throughout the Lower South, being unaffected by such frosts and freezes as occur in this region. Specimens, entirely unprotected, have stood the winters uninjured for years as far north as Washington." He also adds that "The use of this stock will certainly reduce the frost risk." The fruit on trees budded on this wood is also said to ripen earlier in the season.

As to size of the tree Mr. Taber adds:—

"The fact that this stock has been considerably used for the propagation of small orange trees for house culture, and for grounds at the North, where the trees must be removed indoors in winter (for which it is especially well adapted), has led to the impression that varieties worked upon it were necessarily very much dwarfed. This is erroneous; in open-ground culture oranges upon Trifoliata stock are not dwarfs in this diminutive sense, but make good, sizable trees." A seven year tree is said to reach a height of eight to twelve feet in that time.

The Florida sour stock also shows magnificent growth, and for certain damp, heavy soils, has been used to advantage where the sweet root showed a far greater percentage of foot rot, and a tendency to gum disease. The pomelo stock is also a strong favorite, having a splendid root system producing a very thrifty even growing tree wich produces the best of fruit.

Of course the old California seedling stock is still the greatest in demand for any stocks yet used for budding. It has been tested for years and there seems to be no question of its adaptability to the usual conditions of California.

However, of all these varieties, Mr. Disbrow can supply any quantity a purchaser may need. His principal purchasers are nurserymen who deal in large quantities, or the large planter who is preparing for planting a couple of years later. By careful packing he finds an extensive market from San Diego to Sacramento, as well as in Arizona.

The perfect thrift and strong growth of the trees in all parts of this mammoth lath house compelled us to ask as to the method of getting such uniformly strong growth. So Mr. Disbrow kindly gave his method of procedure. First, he takes into the lath house a good strong horse and a plow, and the entire space is very deeply plowed. The subsequent detail work caused by tramping, some hardening of the soil, which was plowed a second time and thoroughly pulverized before it was ready for the seed. The surface is made perfectly smooth and nearly level and reduced to perfect tilt by continuous work. The beds are ten feet wide by 180 long. One by three strips are placed along either side of the bed, which is scraped down to a uniform surface one inch below top of strips by a straight edge with one side notched in each end, which is passed over the bed and gives it a final smoothing. This prepares the bed for the broadcasting of the seed.

Lath House From Above.

These seed had been previously secured from selected fruit of the pomelo, sour orange, sweet orange, Trifoliata and rough lemon, brought in from near and far, from Japan to the Bahamas. These are broadcasted over this prepared ground and then firmed into the soil by placing on top of the bed a plank. This protects the seed and keeps it in place when the fine sifted dirt is thrown over for the covering. This pulverized soil is placed over the seed exactly to the depth of a half inch. This depth is secured by using another straight edge with a half-inch notch instead of one inch in either end, which is passed carefully over the entire bed. A further covering of half an inch of clean white sand for a mulch is then added, a straight edge for the top straps on either side of the bed leaving a perfectly smooth, level surface. In the course of two or three weeks the first shoots and green leaves appear, when the work of weeding begins. Of course here, as in watering, tilling and all other processes of the work, the greatest care with these tender plants is necessary. The lath at the sides of the house and over the top temper the winds and the sun, so as to give the best condition for the tender plants. In the manner of watering, it may be in order to know, that all over the entire tract Mr. Disbrow has conveniently arranged hydrants so that the work is simplified so far as possible; which watering requires a full day's time for one man and is repeated every few days.

The planting of the seed was completed in June; the seedlings will be kept in the bed until at least the first of March, when they will have arrived at the proper size and the season will be favorable for planting in the open nursery row.

They are then placed in rows about four feet apart and one foot apart in row. In the following fall, if given reasonably good care, every one of the plants which are as thrifty as these of Mr. Disbrow's will be ready to receive the bud from a Navel, Valencia, the pomelo or any variety of lemon. This bud will lie dormant during the cold season and will be ready for the first sap of the spring, which should, during the following summer, give it a growth of three to six feet. They are, however, usually topped at three feet and forced to send out a symmetrical head. This gives a stockier, stronger growth and less dependent upon the stake than is the case with the whip-like taller tree. The following spring, which makes the time from the planting of the seed three years, they are ready for the orchard.

This gives something of an idea of the great extent of Mr. Disbrow's business in the seed-bed stock. Of course in addition it is noted, he does some planting in nursery row and budding of trees for the orchard. Outside of that we may merely mention the fact that he has in seed-bed and pots 10,000 to 15,000 Phoenix Canariensis; also a number of Washingtonia robusta. He also has a number of the best varieties of shade trees. In this collection are Sterculia diversifloia,

In the Seed-Bed House.

Acacia melanoxylon, Texas umbrella, rubber and camphor trees.

Any one interested in citrus stock will enjoy a trip to Pasadena to see this quantity of stock, and will find in Mr. Disbrow a man full of information and willingness to impart it to anyone interested.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

A GOOD ROSE LIST.

A recent vote on the twelve best roses to grow in Victoria, Australia, resulted as follows:

1	La France	338
2	Maman Cochet	324
3	The Bride	254
4	Kaiserin Augusta Victoria	219
5	Prince Camille de Rohan	209
6	Marechal Niel	201
7	White Maman Cochet	192
8	Cloth of Gold	182
9	Madame Lambard	177
10	Niphetos	143
11	Mrs. John Laing	123
12	Belle Siebrecht	121

This list is intended for bush growth though Marechal Niel is a climber, but one easily kept to a shrubby growth. This list is a most excellent one for California though not the best dozen; yet few would make so good a choice without an intimate knowledge of the different sorts.

Marie Van Houtte, our best rose, received 114 votes; White Papa Gontier, usually second here, got but 43. Other prominent roses in California were voted upon as follows. Catherine Mermet, 69, Caroline Testout, 58, Perle des Jardins, 55, Sunset, 49, Safrano, 44.

* * *

BUDDED, OR OWN ROOT ROSES?

Roses are usually worked in two ways: Budded on a strong stock like the Manette, Maiden's Blush, Dog Rose or sometimes the Banksin; or they are grown from cuttings and therefore on their own roots. Most home grown plants are of the latter class. while most commercial roses belong to the former. Every year the nursery and gardening trade journals engage (through correspondents) in a controversy respecting the merits of the two classes and a close tab kept on the writers, show that at least three-fourths of the best growers prefer the budded stock. The majority of kinds, when budded on a strong stock, will produce more blossoms, more solid and more perfect in form and of better keeping qualities when cut. The only objection to budded roses is that sometimes the stock will send up suckers, but the foliage is so much different that anyone should be able to tell them from the bud. Own root roses also are slower of development.

* * *

ORNAMENTAL SUNFLOWERS.

The true sunflower (Helianthus) number nearly a hundred species and of this number about one fourth are worthy of a place in the garden. Of our native Californian species we have two or three that are very showy. For massing as a background these plants are very effective, for by planting the dwarfer kinds in front (growing about four feet high) and the taller (ten feet) behind a very pretty showing can be made. In addition to singles, semi-doubles and doubles the flowers vary in a great many ways, some having broad petals, others pointed and narrow and still others having the petals twisted like a corkscrew. Some are pale yellow in color, while others are a decided orange; some have yellow center, others a dark one. Some species have very large flowers while others are but two inches across. The foliage varies much more than the blossoms and a collection will prove a very interesting study. All are easy to grow and most of them are perennial.

Observations in Orange Producing Countries.

It has been our pleasure to have a long interview with F. H. Disbrow, of Pasadena, regarding his trips through Mexico, Cuba, Porto Rico and Florida.

His first journey was made in 1901, when he took a trip through Mexico to Vera Cruz, thence sailed to Yucatan and Cuba. His object was to get an idea of the agricultural productions of those sections.

One point which Mr. Disbrow is very decided upon is that the possibilities of these countries as citrus fruit producers is over-estimated. While they all produce quantities of oranges the quality and the conditions under which they must be raised are such that a good California orange has nothing to fear. The condition under which the fruit is grown is certainly not the best. Both as to lack of modern methods of work, but more as to natural conditions. Some water for irrigation is lifted from a depth of 500 feet, and is often sold at a cent per five-gallon can.

In Mexico the temperature is much too low in most sections and the supply of water too limited. The greatest production is in the plateau land south of the City of Mexico. But here, again, is where the famous, or infamous, Morales orange worm has become established, which has practically ruined the industry in that vicinity. The buyers and shippers are mostly Americans and they usually refuse to buy any fruit from infected districts.

The tools used in soil tillage are of the crudest. Often a wood plow is seen, and the clumsy cart with solid wheels is seen creaking its way to market, though some oranges are taken to market on donkey back. The fruit ripens in November, all are seedlings, and of good flavor. The tariff is effectual in keeping the fruit out when American oranges are in the market.

From Vera Cruz ship was taken to Yucatan, where a cargo of sisal was shipped.

From Havana trips were made over much of the western end of Cuba. Some oranges are produced, most of orchards are young, but the conditions are certainly not favorable to the best results. Sugar is the principal product and is profitable.

Porto Rico has been considered a menace to California orange production, so it was with much interest that we learned from Mr. Disbrow his observations there. His trip there was a year later, or in 1902. He saw oranges, many of them. Sometimes hauled to town in ox cart, sometimes on burro back.

The roads are wretched except in the case of the military roads built from San Juan to Ponce, and from Ponce to Adjuntas. These were built at an expense of $12,000 per mile, some sections costing over $25,000. These facts more than offset the low freight rate which the five day steamer trip to New York gives.

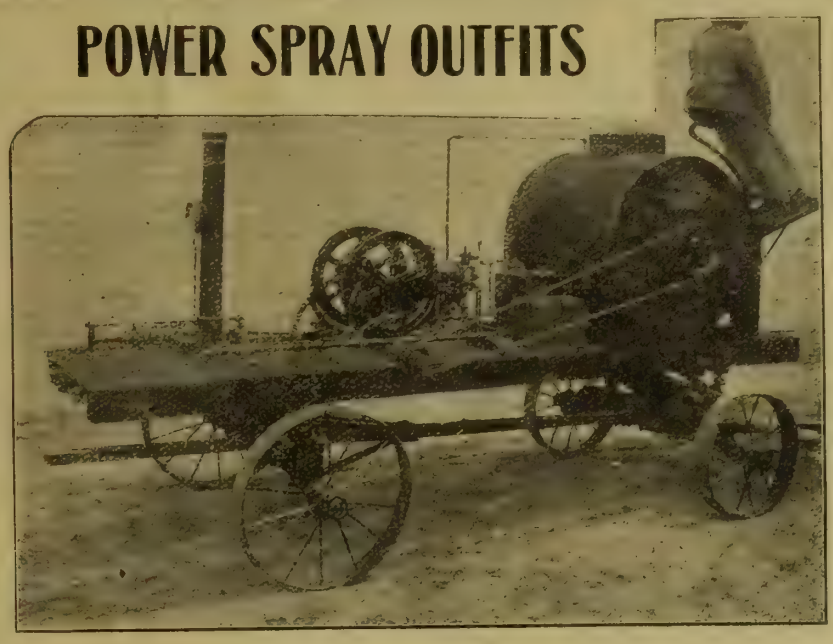
The entire northern side of the island has a very heavy rain fall, sometimes 100 inches. This, with the warm atmosphere, causes a heavy growth of fungus on all orange trees. South of the range of mountains which parallels the southern coast and not far from the coast, the conditions are much better. That is, the rainfall is light, but the irrigation which it necessitates is most expensive and under greatest difficulties.

Labor is cheap and at same time of poorest quality. There is not only lack of strength and disposition, but of intelligence.

North of the range where the rain is heavy, sugar production is profitable and will doubtless continue to occupy attention of planters.

All told, Mr. Disbrow says his trips convinced him that intelligent and careful orange culture in California has nothing to fear from any of the countries which he visited. There are but few conditions there which will ever attract intelligent laboring people. And fruit culture has as one of its essentials intelligent labor.

POWER SPRAY OUTFITS



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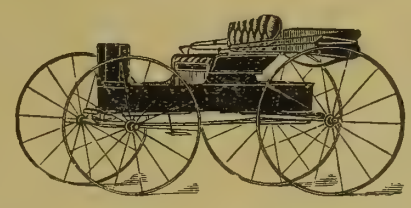

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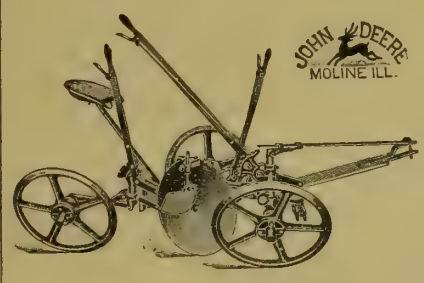

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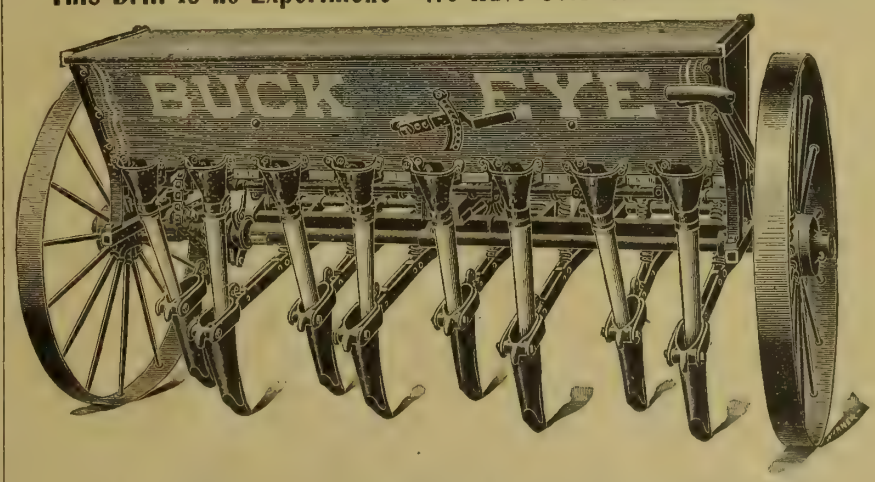

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HOW HE WORKED.

The women at home with their petty cares,
They little know what a man does and dares;
He has to fight and he has to rush,
He has to hustle, he has to gush;
From morning to night he's on the go,
And rare are the pleasures he comes to know.
Thus said Sam Small as he went down town,
With a ghastly smile and a frenzied frown,
But later his wife on that self-same day,
Caught this hard-worked hub at the matinee.

CALIFORNIA'S WINTER.

A tang of the sea and a breath of the snow,
And a whisper from where the dark violets blow
With the sunshine commingle once more to remind us
That winter is searching for us, but can't find us—
In California.

The hills raise their arms, running over with holly,
And laugh to tell winter that searching is folly
Where orange trees groan with their fruitage of gold,
Or blossoms with stars when the year's growing old—
In California.

He is passing, he's searching with eyes that are bold.
And he breathes on our treasures with breath white and cold;
Then a curtain of mist falls from mountain to sea,
And they're hid from his gaze like a bride that's to be—
In California.

A handful of roses, a fair face above them,
A smile and a whisper, "I love them, I love them;"
A patter of raindrops which beat swift and bold,
And old winter has passed like a tale that is told—
In California.

—Claire Davis in Stockton Mail.

Would Reform the Carriage Caller.

"That caller is a fool," angrily reiterated Mr. Thompkins for the fortieth time.

"Why the poor man is doing the best he can," said Mrs. Thompkins, who was a sympathetic soul. "There are so many carriages, and the coachmen are so rude, and everybody is in such a jam."

"Anybody who had a thimbleful of gray matter under his hat could get these carriages up here all right," declared Mr. Thompkins. "That fellow is just a plain everyday idiot. I'd like nothing better than a chance to yank those coachmen around. I'll bet that if I were calling you would find those fellows getting in line and coming up right."

"Go ahead Thompkins," said a man who stood behind him, "Get out there and make good. Here's my check."

"And here's mine," said another, and in half a minute Mr. Thompkins had a dozen checks in his hand.

Mrs. Thompkins tried to restrain him, but Mr. Thompkins' fighting blood was up. He grabbed a megaphone that stood by the carriage step, and, walking grandly out into the road, looked at the first check he held and whooped:

"No. 435!"

No. 435 did not respond. Mr. Thompkins walked back and forth, baying the number into the night air. Then he walked down the street. At every step he whooped for No. 435. Finally a carriage started out of the shadows and a meek voiced coachman asked:

"Did you say 435?"

"Did I say 435?" bellowed Mr. Thompkins. "Did I say anything else?"

"I don't know, sir," replied the coachman. "I was askin' for information, sir."

"You get down to that carriage way as fast as you can," yelled Mr. Thompkins.

"But sir," said the coachman, "I—"

"You go; no back talk." Mr. Thompkins was positively impressive. The coachman drove his horses into the road and in front of two or three other carriages waiting there.

"Git back out of this," yelled one of the coachmen ahead. "What you gittin' ahead of us for?"

"Here you, man," shouted Mr. Thompkins. "You mind your own business. I'm master here. I'm calling these carriages."

"That's all right," said the coachman. "I don't know who you are but you can't send that guy in ahead of me."

"Can't I?" roared Mr. Thompkins. "O no! Can't I? You notice he's in there, don't you?"

"Yes, he's in there, but he don't stay long,'" replied the coachman, and he forthwith drove his plunging horses in ahead of the coachman that Mr. Thompkins had piloted from his retreat. Two or three other coachmen made sulphurous objections to these proceedings, and in less time than it takes to tell it there was a fine tangle of horses and carriages in the road.

"Here, you man, pull your carriage out of there; get that bay team to the side of the road. Give 435 a chance to get out there."

Mr. Thompkins was conscious that he was being watched by all the people who had heard his boasts, and he swelled up with importance and felt like Napoleon at Jena.

* * *

"Say, whiskers," yelled a coachman, "what are you trying to do, start something?"

"You rein your horses back there. I'm running this part of the show. You have no common caller to deal with."

"But that runt hain't going to git in front of me," shouted back the coachman. "His number hain't been called yet."

"I called No. 435 myself," said Mr. Thompkins, "and I want no more of your impudence."

"Ah, yer bughouse, whiskers. His number hain't 435."

"I say it is."

"You're a liar."

There was a snickering from the spectators on the sidewalk.

"Come down off that box," roared Mr. Thompkins. "Come down, I say, and I'll show you who is master here."

The coachman immediately turned the reins over to a footman and descended from the box.

"Don't you touch me," shrieked Mr. Thompkins. "Keep your hands off me or I'll have you arrested."

"You said that guy's number was 435. Now prove it," said the belligerent coachman.

"Isn't your number 435?" demanded Mr. Thompkins of the coachman he had sent in ahead of the other teams.

"No," said the man. "It's 439."

"You told me it was 435," shouted the exasperated Mr. Thompkins.

"Didn't either. I asked you what number you was calling, because you were getting down close to my number and I wanted to get ready to pull in."

"You're a stupid blockhead, you dundering fool."

The quiet coachman gave the reins to the footman with him and descended.

"Who's a dundering fool?" he demanded as he advanced upon Mr. Thompkins.

Mr. Thompkins attempted to reply, but somebody hit him. He started to run and another coachman hit him with his whip. Mr. Thompkins tumbled down and somebody jumped on him. Mrs. Thompkins came dashing out just in time to yank a whip away from a coachman. Five jehus were jumping on Mr. Thompkins all at once. Mrs. Thompkins laid about her with the whip with such good will that there was a precipitate retreat. Mrs. Thompkins gathered up her liege and whisked him through the carriages to the other side of the street and into their own carriage, which she descried in spite of the confusion.

"Home, James," said Mrs. Thompkins, quietly.

Mr. Thompkins said nothing. He still had the handful of checks of other people's carriages in his pocket. How they got home he didn't know. Nor did he particularly care. He had retired from his position of volunteer caller.—Chicago Tribune.

THE ATTIC CHAMBER.

And when I arrived at th' house, they gave me what they called th' attic chamber. But to say it quick, th' garret. It is that room where th' roof starts on th' floor at each side and meets in th' center overhead, and away from the center—on your head.

If I wanted to get up in th' middle of th' night I had to get up in th' middle of th' room. Once I missed th' middle of th' room and missed my breakfast the next morning.

I didn't come to until dinner time.

One day th' old man says: How's your room?"

I says: "Tip-top." I says: "I have done nothing but tip my top ever since I've been up there—and," I says, "Any time I don't tip my top, I get my top tipped."

In less than a week my head was covered with ceiling wax.

And the only window in that room was along under the eaves.

A little window about a foot wide and a yard long.

I used to have to get down on the floor to see out of it.

Half the time you couldn't tell whether I was looking out of th' window or saying my prayers.

But I discovered th' better way was—to back up to th' window as near as I could—then bend forward and look out between my ankles.

I used to stand there in th' morning and watch th' sun rise wrong side up.

Sometimes I couldn't tell whether it was going up or coming down.

One day th' old man had finished building a porch at th' back of th' house. He saw me looking out of th' window.

He says: "You ought to come down here and see my back stoop."

I says: "You ought to come up here and see mine."

The next day I had th' backache.

Th' old man says: "It's a rheumatic pain."

I says: "No; it's an attic-room pain."

When I was first shown that room the only thing in it was a string of dried apples and a bunch of tansy.

Mrs. Caldwell says: "You can have this room for a dollar—and we'll throw in th' bed.'

MACBETH,
on a lamp-chimney,
stays there.

My Index tells what chimney fits your lamp. If you use that chimney, you get perhaps twice as much light, and save a dollar or two a year of chimney-money,

I send it free; am glad to.

MACBETH, Pittsburgh.

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And they threw in th' bed when I wasn't looking.

And two of th' bed slats hit me in my slats.

Did you ever sleep on a slat bed? I'd just as soon sleep on a Zilliphone.

Narrow strips of board, you know, just near enough together to keep you from falling through—if you're thick enough.

If you get narrow, you're gone.

Then they have a sheet spread over th' slats, and if you believe that what you don't see won't hurt you, you are all right.

I got narrow th' first night. I fell through and hit th' floor ker plunk.

Th' next day th' landlady says: "Did you have the bed-spread over you?"

I says: "Not at first, I didn't—no."

I says: "At first I had the bed spread under me—and then I had th' bed spread over me."

And I had so much of th' bed spread over me that I couldn't get up.

Th' first night I said as usual—"Now I lay me down to sleep." But th' next night I knew better.

And you talk about heat—if you want to get th' most misery for your money in th' sunshine, go out into th' country.

The only cool thing on that farm was a picture in th' parlor of Washington crossing th' Delaware.

Hot afternoons, we used to go in and watch George juggle th' ice, just to see if it would make us feel cooler.

We never saw a piece of ice on th' farm.

And hot nights we used to have to sit up and fan th' milk.

To keep it from souring before morning.—From "Good Gravy," Ezra Kendall.

USES FOR KEROSENE.

A bright writer in the Farmers' Wife, summarizes the uses to which kerosene may be put as follows:

The kerosene can is not a thing of beauty, neither is it suggestive of strength, yet it is one of the most valuable of the housewife's allies. A spoonful of kerosene added to the basin of water in which the windows are to be washed, makes them beautifully clear and easy to polish, while at the same time it repels flies and mosquitoes. If screen doors and windows are thoroughly brushed and freed from dust, then wiped over with kerosene, they will look as good as new, while mosquitoes, flies and moth millers will give them a wide berth as long as any trace of the odor remains.

If, as is frequently the case in the best regulated families, the beds become infested with occupants that do not belong there, they may be exterminated by a free use of kerosene. If one has a careless neighbor, as is apt to be the case in an apartment house, baseboards, window sills and the springs of beds should be wiped off with oil at least once a week as a preventative.

Applied liberally about the kitchen sink, boiler and piper, cockroaches and water bugs may be defied, even in an old house.

For wagon grease or tar spots rub well with kerosene while the grease is fresh, then wash out in cold, soft water, using no soap.

Kerosene will remove ink stains and fresh paint, while nothing takes out blood stains better than cold soap suds to which kerosene has been added.

Irons that have been put away sticky should be well scraped with a thin knife, then rubbed with a rough cloth, moistened with kerosene.

A spoonful of kerosene in boiled starch keeps it from sticking, but do not use enough to make it smell of the oil.

Nothing equals kerosene for cleaning porcelain bath tubs. The ugly black streak around the sides that requires such vigorous rubbing when only soap and water is used, disappears as if by magic when wiped with a soft cloth, moistened with kerosene.

Common kerosene is excellent in cleaning hardwood or stained floors. Sweep carefully and dust before applying the oil. Use only a small quantity at a time, wiping a small space, then rubbing the oil up with a soft, absorbent flannel cloth.

Recipes...

CREAM GINGERBREAD.

Beat two eggs until light; add to them one cupful molasses, half a teaspoonful vanilla, one teaspoonful ginger, half a teaspoonful of cinnamon and a saltspoonful of salt. Now to one cupful of thick, sour cream add a level teaspoonful of soda; then with a wire whip beat the cream till it is light and frothy. Add to the other ingredients, with flour to make a soft batter. Beat well, and bake in moderate oven.

CHICKEN CROQUETTES.

To one pint of cold boiled chicken, finely minced, add one cupful of sifted bread crumbs, a tablespoonful melted butter, two beaten eggs, cayenne pepper, and salt to taste, one tablespoonful chopped parsley, a teaspoonful of mushroon or tomato catsup, a few grains mace, and, if more moisture is needed, add it in the form of sweet cream. Flour the hands and make the croquette in any shape desired, and fry in basket in hot fat.

SARDINE SANDWICHES.

Open a can of sardines, remove all bones and pieces of skin; chop fine, adding a teaspoonful of peppersauce, one of lemon juice, and a few drops of oil if liked. Spread slices of white bread, buttered, with this, press another slice over, and cut in fancy shapes.

EGG PUFFS OR POPOVERS.

First of all, see that the oven is hot. Less time will, of course, be needed for heating a gas oven than when a coal range is used, but see to it that heat is sufficient to spring or burst the wheat cells the moment the puffs are put in. After this let the heat down a little. Have the gem pans hot also. Beat one egg, light, in a bowl large enough to hold the batter; pour in a cupful of unskimmed milk, then add one cupful of sifted flour with a little less than a quarter of a teaspoonful of salt. Beat thoroughly and drop at once into the hot butter pans. These should be about half filled. From thirty to forty minutes will be required for baking. Each puff should be, when done, a shell of richly browned crust, and should have tipped over a little to one side. If properly made they will not fall even when cool. They may be rewarmed, and are almost as good as when freshly made. One or more trials may be necessary in order to learn to make them perfect. A teaspoonful of flour may have to be added to or taken from the cupful, according to the size of the egg, but the batter must be thinner than ordinary mixtures.

USEFUL INSECTS.

The old colored parson gazed at the swarming mosquitos with a sigh.

"Yes," he mused, "dem dah mosquitoes am smahteh than I is. Dey can keep the congregation awake, 'en I can't."—Chicago News.

FEMALE FINANCIER.

Tomdix—As a promoter Mrs. Catchem has that man Morgan beat a block.

Hojax—Why, how's that?

Tomdix—Her daughter's husband is worth half a million and the old lady arranged all the details of the merger.—Chicago News.

HER TROUBLE.

Mr. Impecunious—Mary, I have brought you home a little book on "How to Cook."

Mrs. Impecunious (Sarcastically)—Thanks, my dear; but what I need more is a book on "What to Cook!"—Comic Cuts.

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WORK AND PLAY.

I'm not sure about my headline, I almost think it should be "Play and Work"—so few of us ever get past the "work" part—and really it is hard to find time for anything outside of work. If only inventive genius had given women machines to lighten labor, as lavishly as they have sprung up to do away with outdoor drudgery, then perhaps the play time would be more in evidence. However, I'm not sure we are making the most of what we have. When the sewing machine came to simplify the problem of getting the spring and fall sewing out of the way, we decided to have a dozen fine tucks, where formerly one deep one (for lenghtening purposes only) was used, and how we do shirr and ruffle and pucker and stitch things! Sure enough—what was the machine invented for? to save work, or to make more work? The truth is, woman uses her machinery far differently from what a man does. He takes his sulky plow, binder and mower into a field and uses it to accomplish necessary work in the most expeditious manner. Each implement is fitted to do certain work and a man is usually content to let well enough alone; he doesn't say "I believe instead of cutting this grass close to the ground for hay. I'll go over the ground five or six times and cut it into short lengths, it won't take any longer than it did to cut the field with a scythe and my hay will be different from neighbor Smith's."

But let a woman get a new stove, that is a quicker and better baker and she hies to the bookstore for a new cook book, that she may learn of a dozen things to bake, broil or stew, where formerly a few was sufficient; and so we go on multiplying cares and duties instead of studying to simplyfy them. Then soon we discover that we have nerves, and soon everybody else discovers it, to their sorrow. Let's turn over a new leaf and resolve to live a little plainer; have fewer drapes, throws, tidies, bric-a-brac and ornaments (?) to care for, and strive to get more real happiness out of life.

So many of us spend our substance for that which is naught. Today the piano is as common in our houses as was the spinning wheel in our grandmother's day, not that the people of today are more in love with music, but it is fashionable to have a piano and my neighbor says "it's a nice piece of furniture." Very well, so is a bath tub and accessories—but not one house in a hundred has a well equipped bath room. There is need of a revolution in home making, and housekeeping. Utility should come first; cleanliness and comfort must never be sacrificed for show if we would find time for play, without which Sarah Jane becomes a nervous, cross and stupid woman.—Up-to-Date Farming.

A GIRL'S EDUCATION.

Somebody complains that, "Our girls are being educated while our boys are being kept at home to work," thus unfitting them for housekeepers, and by their superior accomplishments, unfitting them for congenial companions for our boys. There is no probability of either sex getting more education than they will need, nor is it probable that a good education will unfit any girl for the duties of housekeeping and home-making. We are in favor of having both sexes taught all they ought to know, and all they are capable of learning. Let the girls be taught to sing, to perform on some instrument, to draw and paint, and along with these accomplishments they should learn how to make beds smoothly and neatly, to sweep, arrange furniture, bake bread and cakes, roast meat, to fashion and fit neatly their own dresses, make their own underclothing and that of their brothers, how to repair and remodel or renovate an entire wardrobe. To learn all these things one must learn gradually, and a girl who doesn't know how to do all these things cannot claim to possess a superior education, even though she sings divinely, plays beautifully, can conjugate the verb amo in half a dozen languages, or dresses so exquisitely as to turn the heads of half her male acquaintances. To be respected and self-respecting she should thoroughly understand the fine arts of home life. It is the girl who is proficient in these arts who is valued as daughter, sister or wife.—Mrs. Buchannan in Farm and Ranch.

"BOSSY" HUSBANDS.

The husband still ranks as the head of the family, and though cases are common where he is not really in command, the happiest families are those in which he is equal to the job. It is not any word of scripture or law or a promise in the marriage service that makes the husband the senior and ruling partner, but nature and the force of circumstances. Moreover, the fear which some young women have of having to obey a husband is just a bugaboo. As things turn out there is division of responsibility, and therefore of authority. The wife has her realm and rules it. The husband takes her orders in matters under her control and she his in some other matters, and over other matters still they consult and agree upon a course. Of course a bossy husband is objectionable, but a bossy husband is apt to be a good deal of an ass, and no young woman ought to marry a man who is a good deal of an ass unless the exigency is pressing and she can positively do no better.—Harper's Weekly.

FRINGE THE FASHION.

Though fringe can date its popularity back some thousands of years, yet it is nevertheless one of the most fashionable trimmings today. Perhaps the modern smart girl has inherited her fondness for fringe. Whether she has or whether she hasn't, she always appears glad to welcome it back into fashionable favor after it has been out of date for a time.

This autumn fringes of all sorts are the vogue—fine silk fringe, coarse cord fringe, jet fringe and cloth fringe. Fringe is used to give the touch that tells to the smart girl's ribbon neckties, as well as to her best cloth street gown.—October Woman's Home Companion.

MADE EVERYTHING FRESH.

"How fresh the rain makes everything," she said, gazing around after the shower.

"Oh, yes," he said eagerly. "See how the flowers look up and rejoice; see how the grass exults; all nature seems to smile and my love for you after the silence with which you have treated me these last few days is merely like these flowers after the shower, fresher and sweeter than ever."

"Yes," she resumed," the shower has made everything fresh, even you."—Exchange.

To live content with small means; to seek elegance rather than luxury, and refinemet rather than fashion; to be worthy, not respectable; to study hard, think quietly, talk gently, act frankly; to listen to stars and birds, to babies and sages, with open heart; to bear all cheerfully, to do all bravely, await occasions, hurry never—In a word, to let the spiritual, unbidden and unconscious, grow up through the common. This is to be my symphony. —William Ellery Channing.

TROUBLE ABOVE.

"The critics have praised my new book to the skies," said the author.

"What in the world did they have against the angels?"—Atlanta Constitution.

THE BEAUTIFUL STAR.

Wherever you are,
There's a beautiful star
That watches you night and day.

Whenever you're bad,
That star is sad;
But when you are good,

Whoever you are,
That wonderful star
Just sings as an angel should!

A MOTHER COD JINGLE.

Little Johnny Bump
Sat on a stump
A-picking the thistles out of his feet;
Along came a bear
Which made John stare,
And fall off the stump in a heap.

"The Quality Store."

The Clothes Question

To dress well or not to dress well is no longer a question. The question now is, "Where can I get the best clothes for my money?" This store has settled that question for many years, and is better prepared than ever to settle it this fall.
All the newest novelties and the good old "stand-bys" made into the finest garments that human skill and genius can devise,

FALL SUITS, $10 TO $40
OVERCOATS, $10 TO $42.50

Mail orders satisfactorily filled. Self-measurement blanks free.

Mullen & Bluett Clothing Co.
FIRST AND SPRING LOS ANGELES, CAL.

GO TO GARDENA.....

Where the alfalfa grows so luxuriantly, giving from 6 to 8 cuttings per year, and producing when fed to cows a superior product of milk and butter—the secret — there being no alkali to detract from the purity of the milk, as demonstrated by the noted Strawberry Brand of Butter made by Mr. Davis of Gardena. The success of our Chicken Ranches depends upon having green alfalfa as a food product in the production of eggs at a time of the year when the dry ranch farmer has no green feed to make the hens lay. Our small alfalfa, dairy and chicken ranches are making good livings.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset with bearing fruit trees. Berries, one acre of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room house, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house snd barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

GRAY & NELSON
Gardena, Cal.

SUMMONS.

No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.

By C. O. Winters. Deputy Clerk.

SUMMONS.

No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.

(Seal) By C. O. Winters, Deputy Clerk.

Tree Spray Distillate

Not an emulsion of oil and caustic soda, but a special distillation of oil from which all asphalt and other deleterious substances have been removed. Mix with water and apply with spraying apparatus that gives a thorough and constant agitation to the liquid—when properly done we guarantee that it will destroy all insect life attacking either citrus or deciduous fruit trees and not

Spot Fruit or Hurt Tree

Cheapest and Best Insecticide. We also manufacture **Gas Engine and Stove Distillate, Lubricating Oils, Etc.** We solicit your correspondence and orders.

SOUTHERN REFINING CO.

P. O. Box 9, Station C. Los Angeles, Cal

FURNITURE

CARPETS RUGS

HOUSE FURNISHINGS

—Quality and Price Satisfactory—

R. W. PIERCE FURNITURE CO.

203-5-7 N. Spring St. Los Angeles, Cal.

Chico Nursery Co.

(Incorporated)

BIG STOCK OF

Resistant Grapes
Fruit Trees
Shade Trees
Ornamental Trees
Vines Shrubs
Asparagus Plants

Sturdy Stock

Try Them

Chico Nursery Co. 308 WALNUT ST. CHICO, CAL.

"WESTERN" ENGINES

Are the Simplest, Easiest to Start, Easiest to Operate, Cheapest to Run and Cheapest to Buy. Last Longest.

WESTERN IRON WORKS

908 N. MAIN ST. LOS ANGELES, CAL.

When writing to Advertisers Please mention Cultivator

Los Angeles Markets.

Los Angeles, November 12.

Lower quotations marked the butter deals Thursday. Lower prices will obtain until the supply in storage is reduced.

Dealers on the street have come to the conclusion not to sell Bellefleur at the quotations of the past few days. The supply of Bellefleurs will very soon have to come from cold storage.

Walnuts have shown a firm market. The walnut crop of Southern California, it is estimated, will be about one-third or one-half short this season and instead of the usual 650 cars the railway companies are planning to handle the total crop for the season with 450.

Potatoes show stronger feeling in the local market and the selling price on Highland stock has been marked up from 10 to 15 cents per hundred.

The scarcity of onions on this market is very noticeable; firms caught short had difficutly in filling orders with prime stock. This fact made the prevailing price about $1.25 per hundred yesterday.

Butter moved freely; market in steady condition again.

Ranch eggs are stiff at 38 cents and more per dozen, on account of scarceity; other grades firm.

Celery in good supply.

Beans continue weak.

Poultry wanted.

Hay firm.

Butter.

B. of T. Creamery, 2lb roll		65
So. California, dairy, do	.60	57½
Cooking	.45	30
Cold Storage	.50	55

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.37	.38
Fresh Eastern	.29	.30
Store, case count	.25	.26

Potatoes.

River, per cwt.		.90
Salinas, do	1.50	1.40
Local, do	.50	1.25
Sweet Potatoes		1.50

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

NUTS.

Almonds, paper shell		14
Almonds, soft shell	.10	12
Walnuts, soft shell	.14	14½
Walnuts, hard shells	.13½	14
Peanuts, eastern		7
Peanuts, California	5	5½

Vegetables; Mixed.

Onions, yellow, cwt		$1.25
Beets, per 100 lbs		.90
Cabbage, per 100 lbs		90
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chilies, green, per lb		.04
Cauliflower	.40	.50
Celery, per doz		.40
Green Peas		.03
String Beans	.02½	.03
Lettuce, per sack	.25	
Tomatoes, 30lb box	.25	.40

Fruits; Fresh.

White figs, 20-lb box		.60
Black figs, 20-lb box		.70
Strawberries, box, fancy	.05	.10
Blackberries		.07
Pears, northern, Bartletts, bx 40 lbs		1.50
Peaches, per box, 40lb		1.25
Limes, per 100	.90	1.25
Seedling Oranges, per box	1.25	1.50
Northern apples, 40 lbs	.75	1.25
Four tier belleflower		1.25
Four half-tier, Belleflower	1.00	1.00
Local, box 30 lbs		.50
Guavas		.05

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08

Poultry.

Spring Chickens, per lb	.17	.20
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb	.19	.21
Turkeys, cold storage	.22½	23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	9.00	12.00
Alfalfa	10.00	12.00
Corn		1.25
Barley		1.05
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley	1.15
Bran	1.20
Feed Corn Meal	1.50
Middlings	1.35
Cracked Corn	1.45
Oil Cake Meal	1.65 1.75
Chicken Wheat	1.50 1.60
Cocoanut meal	1.50

San Francisco Markets.

Dairy.

San Francisco, Nov. 12.

A firm tone characterized the market for fancy butter all the past week. Thursday experienced a shortage in the market early in the day, but prices ruled steady and closed last night (Thursday) at the same quotations as were met early in the day.

Recipts on Thursday were 44,100 pounds.

BUTTER—Per lb:

Creamery, extras	.32 @33
Creamry, good to fancy	.26 @30
Dairy extras	.24 @25
Dairy choice	.22 @23
Store	.18 @20
California storage	.24 @27
Eastern Creamery	.23 @25

There was no change in the quotations for cheese during the entire week, the demand being about normal.

Eggs and Poultry.

Really fancy eggs have been scarce this week and the demand has been steady, even firm, with values showing slight improvement over last week. Receipts Thursday, 657 cases.

EGGS—Per doz:

Ranch, selected large	.44 @45
Ranch, good to choice	.40 @43
Store	Nominal
California storage	.28 @33
Eastern	.26 @31

Poultry has presented a sharp front all the week past. Notwithstanding the supply was liberal the demand kept lively pace and it was only now and then that the supply equaled the demand. On the whole poultry was short.

POULTRY—Old Roosters, per doz, $4.50@5; young Roosters, $5.50@6; Fryers, $4.50@5.50; Broilers, large, $3.50@4.50; small, $3@3.50; Hens, small, $5@6; large, $6@6.50; Ducks, per doz, old, $4@5; young, $5@6; Turkeys, young, per lb., 17@19c; old, 14@16c; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1@1.25; Squabs, $1.75@2.25.

Fruits and Vegetables.

Apples have been in good demand during the week, especially the better class. Strawberries and Raspberries coming in freely, with values easier than on the previous week.

APPLES—Per box, common to choice, 25@90; fancy, $1@1.30.

PEARS—Per box: Winter Nellis, 75c@1.25; other varieties, per box, 35@75c.

PLUMS—Late Red, per box, 50@65c.

FIGS—Per box, 75@$1.

NUTMEG MELONS—Per box, 40@75c.

POMEGRANATES—Per small box, 50@75c; large box, $1.50@2.50.

PERSIMMONS—Per box, 50c@$1.

QUINCES—Per box, 40@65c.

TABLE GRAPES—Per small box, 25@50c; crate, 40@65c; large box, 85c@1.50; as to variety; Wine Grapes, per ton, $12@20.

BERRIES—Per chest: Strawberries, Longworth, $6@12; Malindas, $2@4; other large varieties, $4@6; as to quality; Raspberries, $5@7; Huckleberries, per lb, ——; Cranberries, per bbl., Eastern, $10.50@11.50; Oregon, per box, $2.50@3.

CITRUS FRUITS—Per box: Oranges, Navels, new crop, $3@3.50;; Valencias, $2.50@3.75.

No particular change marked the vegetable exchange during the week, although a keen buying interest was noted in the better kinds of Potatoes suitable for table use, and the market for these descriptions ruled firm at top quotations, with moderate supplies available.

VEGETABLES—Tomatoes, per box, 25@60c; Green Peppers, per box, Bell, 50@75c; Chile, 30@50c; String Beans, per lb, 2@3c; Wax, 2c @3c; Lima, per lb, 3½@5c; Green Peas, per lb, 2½@3½c; Egg Plant, per box, 50@75c; Summer Squash, per box, 60@75c; Cucumbers, per box, 50@75c; Garlic, per lb, 4@5c; Okra, per box, 50@65c; Marrowfat Squash, per ton, $10@ $12.50; Hubbard, $12.50@15.

ONIONS—Yellow, per ctl, 60@92½c.

Dried Fruits, Nuts, Etc.

The market for dried fruits has been dull. Ther is practically no change in last week's quotations.

DRIED FRUITS.—Prices for carload lots, f.

Apples—Evaporated, 5@6c; Sun Dried, 3½ @4c.

Apricots—Royal, fancy, 9½@10c; choice, 8@ 8½c; Moorparks, choice, 10@12c.

Peaches—Choice, 5¼@6½c; fancy, 8½@9c. peeled, in boxes, nominal.

Pears—Choice, 6½@7c; fancy, 8½@9c.

Plums—Pitted, 5@7c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 3@3¼c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Black, 4@4½c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1903 crop, f. o. b. at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.35; Two-Crown London Layers, $1.25; Muscatels, Four-Crown Standard, loose, 6½c per lb; do, Three-Crown, 5⅝c; do, Two-Crown, 5¼c; Seedless Muscatels, 4¼c; Seedless Muscatels, floated, 4½c; Seedless Standard Sultanas, 4¼c; Thompson Seedless, Standard Sultanas, lencias, Standards, 4¼c; do, Pacifics, 3¾c; Orientals, 2¾c; Malagas, Three-Crown, 5⅝c; do, Two-Crown, 5c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz, per lb, 8c; choice, 7⅝c; fancy, 12 oz, per pkg, 6⅝c.

NUTS—Per lb: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Peanuts, Eastern, 6@6½c; California, Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shell, No. 1, 12@13c; do, No. 2, 10@11c.

Beans.

The little business recorded in the Bean market was done in a small way this week and prices continue nominal in character. Slight revisions, however, are noted in prices, Pinks and Bayos being quoted slightly higher, while Small Whites and Pea Beans were marked down a shade. Limas are a little steadier.

BEANS—Prices per ctl: Large Whites, $2.15@2.50; small do, $2.90@3.10; Pea, $3@3.10; Lima, $2.90; Red, $2.90@3; Pink, $2.20@2.45; Bayo, $2.20@2.45; Blackeyes, $2.15@2.35; Red Kidneys, $4.25.

DRIED PEAS—Green, $2@2.50; Niles, $2.35 @2.50.

Prices on Honey were not changed during the week. The supply was fully equal to the demand.

NEW YORK, November 12.—The market for Evaporated Apples continues quiet with demand moderate, but as supplies are light, there is little pressure to sell. Common are quoted at 4¾@5½c; Prime, 5¾@6c; Choice, 6¼@6⅝c, and Fancy at 7c. Prunes remain quiet. Stocks are fairly liberal and demand jobbing chacater, quotations ranging from 2½@7c for all grades. Apricots are without special feature at the moment. Choice are quoted at 9@9½c; Extra Choice, 10@10½c, and Fancy at 11@12½c. Peaches ruled generally quiet. Choice are hard at 7¼@7¾c; Extra Choice at 7¾@8¼c, and Fancy 9¼@10¼c.

Live Stock.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6¼@7c; No. 1 Cows and Heifers, 6½c, second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5⅜@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13.50@17; Wheat and Oat, $13@16; Oat, $11.50 @$14.50; Barley, $10@13; Clover, $9.50@11.50; Alfalfa, $$9.50@12; Stock, $8.50@10.50.

STRAW—Good to choice, per bale, 55@65c.

FEED CORN MEAL—Choice grades, per ton, $30@31.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26.50@29.

BRAN—Per ton, $22@23.

CRACKED CORN—Choice quality, per ton, $30.50@31.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BRAN—Per ton, $21@22.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@ 4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.38¾; choice, $1.41¼; White Milling, good to choice, $1.42½@1.52½.

BARLEY—Choice, No. 1 Feed, $1.13¾@ 1.16¼; off grades, $1.10@1.12½; Brewing, No. 1, $1.18¾@1.23¾; Chevalier, $1.30@1.45.

RYE—Good to choice, per ctl., $1.25@1.30.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.35@1.40; small, do, nominal; White, $1.35@1.40.

OATS—Good to choice White, $1.25@1.35; Red, $1.22@1.35; Black, nominal at $1.40@ $1.65.

Hops.

The price for new crop is 20@22½c, according to quality.

Wool.

Fall clip, per lb: California, Plains, 7@8c; Foothills, 8@10c; Middle Country, 10@12c; San Joaquin Lambs, 8@10c; Northern Free, 11@12c; do, defective, 10@11c; Humboldt and Mendocino, 11@13c; Nevada, 10@13c; Oregon, Valley Spring, 17@18c; Eastern do, 10@14c.

HONEY.

Honey manifests a disposition to slightly shade prices and is now being stored in greater quantity than heretofore. The quotation, while but little if any shaded, some producers are slightly shading on the prices.

HONEY—New comb, per lb:: White, 12@ 14c; Amber, 10@12c; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb., 30c.

Eastern Markets.

Grain and Produce.

CHICAGO, Nov. 11.—Firm cables brought out a fairly good demand for both December and May wheat at the start, and December opened ⅛ to ⅜ higher, at 77¼@77½. Offerings were light early in the day and with a fair advance in the price of December at Minneapolis, December advanced to 77⅞ within the first hour. Later in the day weakness in corn, with lower prices at Minneapolis and New York, brought heavy selling orders, and the market became very weak. Large primary receipts and small clearances helped to create a bearish sentiment. Closing prices were at about the bottom, with December ¾ lower, at 76⅜ after it had tuoched 76¼. Corn ruled extremely weak after a firm opening. December closed at 42⅛@42¼, a loss of ⅝ to ¾. Oats encountered a fairly steady market until the corn break, and then prices declined. December closed ⅛ to ⅝ lower at 33⅞ @34. Provisions were steady early in the day on a good cash business and on a strong demand for lard, but later, with grain prices showing weakness, the market turned weak. Pork closed 12½c lower; January lard 7½@10c lower, and ribs 7½@10c lower.

Cash quotations were as follows: Flour was active, but weak; No. 3 spring wheat, 75@76; No. 2 red, 76¾@79⅞; No. 2 corn, 42¼; No. 2 yellow, 43¼; No. 2 oats, 34¾; No. 3 white, 33½ @37; No. 2 rye, 53½; good feeding barley, 33@ 38; fair to choice malting, 48@56.

Grain Movements.

Articles—		Receipts.	Shipments.
Flour,	barrels	53,200	19,800
Wheat,	bushels	424,900	59,200
Corn,	"	310,200	173,200
Oats,	"	481,300	112,200
Rye,	"	19,000	3,500
Barley,	"	373,000	97,000

Chicago Live Stock.

CHICAGO LIVE STOCK MARKET.

CHICAGO, Nov. 11.—Cattle—Receipts, 22,000, including 2500 western; steady; good to prime steers, 5.25@5.65;; poor to medium, 3.25 @4.75;stockers and feeders, 1.75@3.25; cows, 1.25@4.25; heifers, 2.00@4.50; canners, 1.25@ 2.25; bulls, 1.75@4.25; calves, 2.50@7.50; Texas-fed steers, 2.75@3.50; western steers, 3.00@4.25. Hogs—Receipts today, 25,000; tomorrow, 25,000; market steady to 5c higher; mixed and butchers', 4.50@5.05; good to choice heavy, 4.40@4.90; rough heavy, 4.10@4.50; light, 4.50 @4.90; bulk of sales, 4.50@4.75. Sheep—Receipts, 26,000; sheep and lambs steady; good to choice wethers, 3.75@4.25; fair to choice mixed, 2.75@3.25; western sheep, 3.50@4.15; native lambs, 4.00@5.75; western lambs, 4.25 @5.10.

DAIRY MARKET.

On the Produce Exchange today the butter market was steady; creamery, 15@20½; dairy, 14@18½; eggs, firm, 21½@23½; cheese, 10@11.

California Dried Fruits.

NEW YORK, Nov. 11.—Evaporated apples are in light supply, the market closing steady, with common quoted at 4@5½; prime, 5¾@6; choice, 6¼@6¾; fancy, 7. Prunes quiet; prices range from 2½@7 for all grades. Apricots are quiet, choice, 9¼@10; extra choice, 10@10½. Peaches are dull; choice, 7¼@7¾; extra choice, 7¾@8¼; fancy, 9¼@10¼.

NEW YORK, Nov. 11.—Wheat, spot weak; options closed ⅝ to ⅛ lower; May closed 81; Decmber, 83⅞. Hides steady. Wool firm. Coffee, spot Rio steady; No. 7 invoice, 6⅛; mild, firm. Sugar, raw, nominal; refined quiet.

LIVERPOOL GRAIN.

LIVERPOOL, Nov. 11.—Close—Wheat, December, 6s 5d; March, 6s 4¼d; May, 6s 3¾d.

CITRUS MARKETS

ORANGE SHIPMENTS.

Following is a daily statement to cover a period of one week, showing number of carloads of citrus fruits shipped East from Southern California during the season beginning November 1, 1903:

Of the season's total 35 carloads were lemons.

NEW YORK, Nov. 12.

Continual demand has made a satisfactory market for good fruit the past week. Florida and Jamaca oranges continue to come in. Prices on poorer qualities of oranges have been lower, and the prospect is for a continuation of moderate prices on inferior fruit.

Fancy lemons brought a high price during the early days of the week. But secondary fruit shows a natural decline.

AUCTIONS.

NEW YORK, Nov. 4.

S. T. Ft. Ex. L L L lemons, $5.80. XXX lemons, $5.25. E. E. E. lemons, $3.05.

PITTSBURG, Nov. 4

A. H. Fruit Co. Palm Tree Valencias, $2.80. Elk, $2.10.

BOSTON, Nov. 4.

Market steady.

C. C. U., Rialto. Marguerite Valencias, $3.35.

CLEVELAND, Nov. 4.

C. C. U., Fillmore. Flamingo lemons, $2.95. Sunrise, $1.60.

NEW YORK, Nov. 6.

San Antonio Ft. Ex. Foothill Valencias, $2.80. Morning Glory, $2.15. Volunteer, $2.45.

BOSTON, Nov. 6.

Market weak.

C. C. U., Fillmore. Flamingo Valencias, $3.45. Azelia, $3.10. Sunrise, $2.80.

PITTSBURG, Nov. 6.

Market steady.

O.-K. Ft. Ex. Choice lemons, $3.25. Owl lemons, $2.55.

NEW YORK, Nov. 9.

S. A., Ft. Ex. Harmony Valencias, $3.85. Pet Valencias, $2.70.

BOSTON, Nov. 9.

Market weak.

S. A. Ft. Ex. Stork Valencias, $2.90. Victor, $2.15.

CLEVELAND, Nov. 9.

S.-T. Ft. Ex. Sierra Madre lemons, $4.25. Red Fame lemons, $3.80. Canyon lemons, $2.05.

PITTSBURG, Nov. 9.

Market declining.

S. T. Ft. Ex. Whittier lemons, $2.85. Pico lemons, $2.45.

NEW YORK, Nov. 10.

C. C. U., Pomona. Elite Valencias, $1.65. C. C. U., Alhambra. Execisior Valencias, $2.55.

We recently saw one of the finest drinking fountains for poultry yards which it has been our privilege to see. It is the Eureka fountain and is manufactured by the Eureka Supply Co. of 257 Poe street, Los Angeles. Is is made of galvanized iron, with air chamber above the water to protect from heat or sun. The water is fed to small receptacle at bottom as fast as consumed. Its strong points are, pure water constantly supplied, convenience in filling, arrangement for hanging up to keep out of dirt and with it all, cheapness.

FINE NURSERY STOCK We are now opening our sales yard at No. 632 S. Spring St., Los Angeles. We will soon have on hand a full line of northern as well as home-grown Deciduous Trees in quantity. Also some of finest Citrus Trees grown in the South. Having had between 26 and 80 years' experience in fruit and tree planting, we are enabled to offer suggestions as to best and most profitable varieties for Southern California. Ornamentals and Trees for street and lawn planting. Yours truly,

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632 S. Spring Street Los Angeles, Cal.

NO EXCEPTION

Last year we said the Tilton Apricot was a regular bearer. NEVER FAILS. This year is no exception. Every tree bore heavily; old ones as well as the newer planted orchards.

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TILTON APRICOT

Is a winner. Large, highly flavored, good color. In the dried fruits the Tilton won First Premium at the Great Central California Fair. Liked by canners. Original tree 18 years old near our nursery. Buy trees where you can get true to name buds from original stock from the Original Tilton Nurseryman. A thrifty lot of peaches and other deciduous trees.

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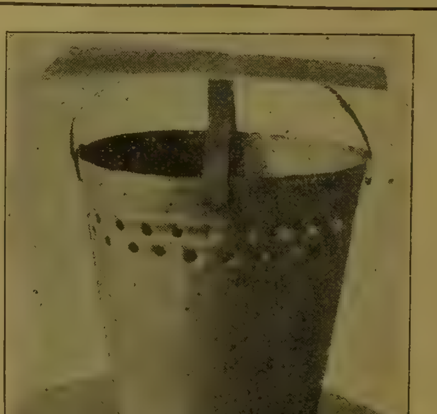

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Note the following extracts written by prominent fruit growers:

"If growers would generally place pots in their ranches, 25 pots fired per acre, in any frost we have had, would thoroughly protect the trees and fruit. I am sure many more will put in the oil pots next winter."—D. B. Bailey, Rialto, San Bernardino County.

"I am perfectly satisfied with the results. It furnishes sufficient heat to prevent frost damage during periods of cold weather and does not smut the fruit or trees. I find it even possible with these devices to carry the winter blossoms in my lemon grove through for summer crop."—N. W. Moodey, Glen Ellen Orange and Lemon Grove, Centerville, Fresno County.

"During the recent frosts the oil pots saved our crop except a few on the outside of the ten acres of Valencias."—W. R. Wood, Exeter, Tulare County.

"I found that, although the temperature fell to 20 degrees outside the protected area on January 16th, and again on February 14th, 40 pots to the acre gave me all the heat I needed for protection. I estimate that the crop saved on the Camilla orchard this season is worth $20,000. The fruit is heal hy, wtih fine fiavor, weight and color."—N. G. Simms, Camilla Orange Grove, Lindsay, Tulare County.

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Producing Eggs at $5 Per Dozen

At this season of the year many of tne poultrymen are producing eggs at a cost of from $3 to $5 per dozen, and they are selling them at 50c per dozen or more and losing money every day, when now is the time they should be just coining money.

The average poultryman thinks to be saving on tne feed by buying cheap feed, the cheapest he can get, chop feed, shorts, etc., or anything that is the cheapest and he hauls it home and feeds three or four sacks of feed to get one dozen eggs and thus he produces eggs at from $1 to $5 per dozen.

It would be better for the poultrymen to pay $30 a ton, $40 or $50, or even $100 a ton for feed and get feed that produces eggs. Even at $100 a ton, a feed that three pounds of it fed to hens that will make them lay one dozen eggs, is cheaper than feed that you have to feed three or four sacks to get one dozen eggs.

Producing Eggs at 17c a Dozen on Coulson's Egg Food

L. K. Pierce on Mt. View avenue, Petaluma, has 450 hens which he feeds Coulson's Egg Food. It costs him $2.00 per day to feed the 450 hens and a few days ago when eggs were bringing 50c a dozen he received $6.00 per day from eggs sold, making a profit of $4.00 a day on 450 hens.

D. H. Ward, of Cotati, feeds Coulson's Egg Food and gets an average of 90 dozen eggs a week from his 500 laying hens. When eggs were 50c a dozen, Mr. Ward received $45 a week from eggs sold, and the cost of feed by feeding them all they will eat of Coulson's Egg Food as a mash, and wheat in the scratching pens is not over $16 per week. So Mr. Ward clears over $25 a week on 500 hens by feeding Coulson's Egg Food.

The Secret of Success in Poultry Keeping

The day has passed for making money with poultry by old fashioned methods. The farmers and poultry keepers that are making any money today are the wide-awake, progressive men and women, who study their business, who take advantage of the best facilities, latest improvements, modern methods, etc. In short they keep up with the times. They are the leaders and others who don't keep up to date are unable to comprehend the mystery of their success.

Incubators have taken the place of setting hens, and the study of the poultry keeper now is to make hens profitable in egg production, and to know what is needed and what is best when so many things have been called good for egg production.

We believe the majority of poultrykeepers obtain about one-half the quantity of eggs their hens are capable of laying per year, and they must keep a hen four years to get as many eggs as might be produced in two years.

A hen can be made to produce as many eggs in the first two years as she would naturally in four years.

Business in poultry is poultry for profit, and it is the most profitable branch of any farmer's business if properly cared for.

The hen must be kept in laying condition by feeding the proper food. Coulson's Balanced Egg Ration should be fed to every laying hen one meal a day the year round.

Coulson's Egg Food is no longer an experiment. It has been tested, tried and proved to be a success.

We know whereof we speak. Coulson's Egg Food will double the egg production of your hens.

The profit of poultry keeping depends upon the production of eggs, and while there are many other things to be considered in care of poultry besides proper feeding, yet we find that the most important thing of all, special feeding for eggs, has been overlooked by many of the poultry keepers. The analysis of eggs shows them to contain a variety of ingredients in definite proportions. To produce eggs in quantity, with economy, it is necessary to feed these component parts in proper proportions and in form more easily assimilated and digested.

Many have failed to make poultry profitable because they did not fully realize this.

Coulson's Balanced Ration Egg Food has been tested, and proved to be successful, and is now fed exclusively by many of the largest poultry raisers in the Southern, as well as Northern and Central parts of California.

It is just as proper and necessary to feed hens especially for eggs as it is to feed cows especially for milk, and sooner or later poultry keepers will wake up to this fact.

Loading Cars with Coulson's Egg Food

Chas. Miles on His Annual Trip Through Southern California—Photo taken at Watsonville

Profits from Poultry
Depends Upon How and What You Feed

Coulson's Egg Food, a balanced ration of ready mixed feed for laying hens is what makes the hens lay lots of eggs, and now that eggs are bringing a good price you should purchase a ton or two of this feed and make some money out of your hens.

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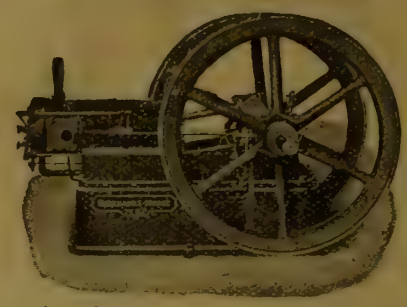

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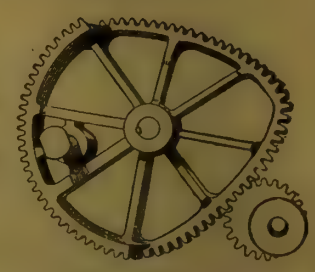

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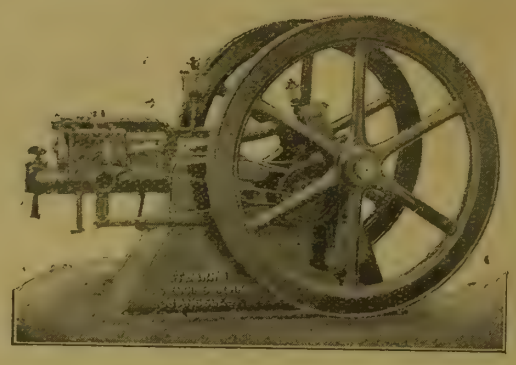

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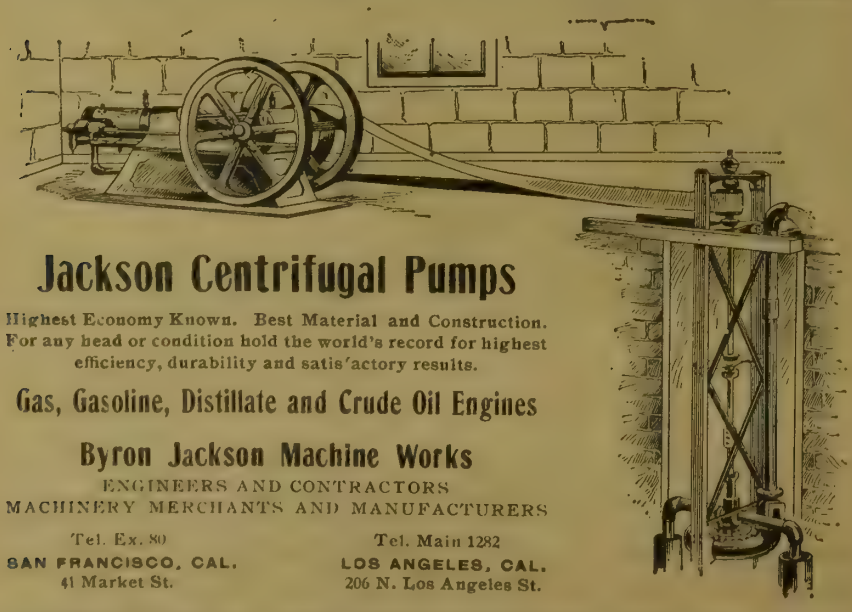

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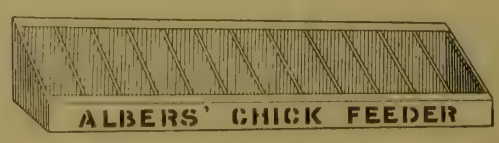

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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 21 LOS ANGELES, CAL., FRIDAY, NOVEMBER 20, 1903 Subscription $1 a Year

Hints on Tree Planting

BY JOHN ISAAC, SACRAMENTO

The tree planting season is close upon us again, and from reports of nurserymen who are already crowded with orders, there will be no diminuation in the new acreage set out this year as compared with former seasons. It is really astonishing when we consider the vast numbers of trees that are set out each year, not that we have so large a fruit acreage in our State, but that it is not larger. It is safe to say that four-fifths of the trees sold by nurserymen never reach bearing age, while a large part of the remainder merely replace abandoned orchards, and so while the fruit acreage is steadily increasing, it does not do so as rapidly as the production and sale of nursery stock would seem to indicate.

Among the many who will plant fruit trees the coming season will be many beginners and a few hints for their guidance may not be out of place at the present time.

Deciduous trees should be planted in our State as nearly as possible after the winter rains have commenced. In our climate deciduous trees have no season of complete dormancy, and the roots maintain some degree of activity even while the tops are in a state of rest. This is demonstrated by the fact that trees planted early in the season, the roots of which have been pruned, will form a callous over the wound, and will very often start new roots, before the buds on the top begin to swell. Early planting is therefore to be recommended as it settles the dirt thoroughly about the roots and gives them a chance to start before the top draws upon them for its sustenance. The young tree should always find the soil prepared for its reception by deep plowing and thorough pulverization. Remember that when the orchard is planted this can never be done so well, and the time and money spent in preparing the soil for the trees will be many times returned during the life of the orchard.

The holes should also be ready and these should be of ample size to receive the roots of the young trees without crowding. It is the rule of many of our best orchardists to dig deep holes, throwing the bottom dirt on one side and filing up the holes with the surface soil.

Young trees should not be exposed to the air longer than possible and are in the best condition when taken directly from the nursery to the place of planting and, even in the transit, they should be protected by having their roots covered.

In planting it is best to set them a little higher than they grew in the nursery. The loose soil around them will settle and fill in when they will be at the same depth. Never plant them deeper than they originally grew. We have known orchards utterly ruined by careless or ignorant planters setting the trees several inches below their original position.

All injured roots should be removed, and whether more root pruning should be done is yet an open question among many planters. The Stringfellow method, as it is called, advocates the removal of all roots and the planting of a mere stick, or as it has been aptly described, it consists of cutting off all the tops and all the roots and planting the label. As the roots are the life of the tree, it would seem the most rational, and the most in accord with nature, to leave as many as possible. All damaged and bruised roots, however, should be removed, after which the tree should be placed in position, the roots carefully spread out and covered with the loose soil. When the dirt has been placed over the roots, the young tree should be grasped firmly in the hands and shaken with an up and down movement so the dirt will settle around the roots, after which it should be tramped down.

The young trees should be cut off to fourteen or eighteen inches in height. And here is where many beginners, especially in the past, have made a fatal mistake. People are always in a hurry for results, and to the novice it seems reasonable that by planting a four or five year old tree and leaving all the top on, he will attain results much sooner than by planting a young tree and cutting off nearly all the top.

Experience has proven otherwise and we have learned that a healthy young tree, properly planted, and carefully looked after, will soon overtake and surpass the older trees and give better results for a longer period. The young trees should be cut back to a short stem in order to force them to branch low. This forms a low head and shades the trunk, a precaution much needed in our climate, as without some protection the trees will sunburn, and soon be filled with borers and become worthless. When the young tree is planted it should be protected from the sun until it has sufficient top to protect itself. This can be done by setting a shake before it, or using some of the tree protectors sold for the purpose.

There are several methods of setting out the orchard, the square, quincunx or hexagonal are the most general, and the square the favorite. These methods are illustrated as follows:

o o o o o
o
o o o o o o
Square Triangular or Hexagonal Quincunx

The quincunx is generally used where an orchard of large growing standard trees are planted, and the center one is put in of some early bearing variety to be removed when the others have grown to need the space, as walnuts or apples, with a peach in the center.

The distances apart at which trees should be planted vary with the nature of the trees themselves, the larger growing trees, of course, requiring more room. The following is the generally accepted distances allowed in this State:

Apples and apricots, 24 to 30 feet.
Pears and cherries, 20 to 24 feet.
Peaches, plums and prunes, 20 to 30 feet.
Quinces and dwarf pears, 10 to 12 feet.
Oranges and lemons, 20 to 30 feet.
Olives and figs, 20 to 30 feet.
Walnuts, 40 to 60 feet.

By skillful pruning nearly all kinds can be confined to a reduced space and this is advocated by some, but demands more than average qualifications.

In a family orchard, embracing various kinds, convenience in cultivating recommends the adoption of uniform distances adjusted between the extremes best suited to each. About 20 feet will be found a fair average. By alternating the larger growing kinds, such as apple and apricot, with the smaller, such as pear, peach and plum, each will more nearly appropriate its natural proportion of space.

AN ORANGE ORCHARD. Courtesy of Sunset

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

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Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Nov. 20, 1903

Circulation this issue 9,500

The poultry exhibitions of California for this season are as follows:

Mechanics Pavilion, San Francisco, Cal., December 1-5, 1903, under management of the Oakland Poultry Association. J. C. Williams, Secretary, 33 Market St., San Francisco, or Fruitvale.

Los Angeles, Cal., December 14-19. 1903.—Twelfth Annual Exhibition Los Angeles County Poultry Association, to be given in Hazard's Pavilion. Comparison judging. Henry W. Kruckeberg, secretary, 123 S. Los Angetes St., Los Angeles.

San Diego, Cal., January 6, 7, 8 and 9, 1904.—The San Diego Poultry and Pet Stock Association. Harry McIntire, secretary, San Diego.

A Farmers' Institute will be held at Covina on the 28h of this month.

State Fruit Growers' Convention will be held at Fresno Dec. 8th.

A Farmers' Institute will be held at San Diego Dec. 3 and 4.

OF GENERAL INTEREST.

The Reciprocity Treaty.—Californians are not in favor of the passage of the Cuban reciprocity treaty. The Cultivator has, on several occasions, stated the reasons why the treaty as framed will be of great detriment to this state. We shall be brought into direct competition with Cuba, not only in the production of sugar, but in the cultivation of the citrus fruit industry as well.

Whatever can be grown in California can be grown in Cuba. And then, too, grown so much more cheaply, because labor there isn't one-third the cost it is here. This is the dangerous feature of the situation. We must compete with climate as good as our own, with transportation to our seaboard markets as quick as we can give; with the cost of production much less than this country can produce; and so, we are confronted, not by a theory, but by a condition, and that condition far from pleasing to contemplate. The treaty will probably be ratified, because the President is using his great influence to bring about the consummation of the matter, but in doing so California will be made to suffer greatly, for a time at least—though the President does not think so.

* * *

State Fruit Growers' Convention.—Arrangements have now been fully completed for the Twenty-ninth Fruit Growers' Convention, which will open at Fresno on the 8th of the coming month. More interest is being taken in this convention, and it promises to be the most interesting and the best attended one held for many years past. The first session will be opened by an address of welcome from L. O. Stephens, mayor of Fresno, who will be followed by Governor Pardee. Especial consideration will be given to the grape, and especially the raisin, which is now an object of great interest in the Fresno section. The question of co-operation in the marketing of fruit will also be an important topic, and both this and the raisin question will be discussed by some of the ablest men in the state; among them A. H. Naftzger, T. C. White, M. Theodore Kearney, Hon. Chester H. Rowell, Hon. A. M. Drew and others of equal prominence. The convention opens on Tuesday morning, on Wednesday afternoon an excursion over the lines of the San Joaquin Power & Electric Company has been arranged, while on Thursday evening a reception will be tendered the fruit growers by Ladies' Parlor Lecture Club, one of the most successful ladies' clubs in the state. Arrangements have been made for reduced rates at the hotels, while both the Southern Pacific and the Santa Fe will give excursion rates to those attending. The programme in full will be issued next week.

* * *

The packing-house of the Deciduous Fruit Association at Loara closed for the season on Tuesday. About one-half as many carloads were shipped this year as last.

* * *

A Mischievous Report.—Prof. A. J. Cook, writing the Cultivator in reference to the report that has gone out about squirrel poison injuring cattle, says:

"It is very unfortunate that several newspapers of the state are publishing statements to the effect that a squirrel destroying virus has been used by the professors of the university to inoculate squirrels in Contra Costa county. The report goes on to state that the virus caused a plague which not only destroyed squirrels but also caused cows to go blind. It is very strange how such absolutely false stories are started. The truth is that the university professors have never used any virus either in Contra Costa county or in any other part of the state. They have not now nor have they ever had any such virus for distribution, nor have they any satisfactory demonstration that such virus will kill squirrels or any other animals."

* * *

A Fine Compliment.—Prof. J. W. Mills, of the Pomona Experimental Station, has received a merited promotion. His field of labor being second only to Prof. Stubenrauch. Prof. Mills is fast winning first position among the authorities on fruits, soils, etc., in this state.

* * *

Bright Future.—The Fresno Republican rejoices, and it has a right so to do, at the prosperity which has attended the efforts of the raisin growers of that district. For a while back there was some discouragement in raisin growing based on the low prices received for the fruit. Now things are different. The Raisin Growers' Association has pretty well compassed the situation, and the prices at which they have fixed the crop for 1903 has made raisin growing profitable. The outlook for the Fresno district appears very bright.

* * *

Let Us Have Peace.—Gen. Grant's famous appeal to Gen. Joseph R. Hawley in 1868 has a ringing signficance today, when so much economic disturbance is prevalent in the land.

The following is the text of the letter:

"Peace and universal prosperity, as consequence with economy of administration, will lighten the burden of taxation, while it constantly reduces the national debt. Let us have peace."

The only cloud which disturbs the horizon of our future is that which is produced by the uncertainty of our economic conditions.

* * *

A New Industry.—Another valuable discovery has been made that means much for California. Heretofore mattings have come from Japan or China. Now it has been demonstrated that a splendid article can be manufactured from wild rushes that grow in California swamp lands. This idea was suggested by Rufus S. Sawyer, manager of an eastern matting company who saw how mattings were made in Japan. Prof. E. W. Hilgard sent a bunch of raw rushes to the Goodall Manufacturing Company, Kennebeck, Maine, which made a superior article from the grasses and pronounce the experiment a great success., The United States Bureau of Plant Introduction will at once establish farms in this State for the cultivation of the grasses.

* * *

An effort was made to induce the last Legislature to pass a bill authorizing the appointment of county stock inspector at a salary of $100 per month, and mileage at 10 cents per mile. Dr. T. Carpenter, city veterinary, of Alameda, and Dr. Funston of Oakland, claim the credit of defeating the bill. Now their names have been left out of the register of qualified practitioners, and these gentlemen ask Governor Pardee to investigate the matter.

* * *

One thousand people in and near Douglass, Kansas, have formed a co-operative association for conducting funerals of members. When a member dies an assessment of twelve cents is levied on each member and the expenses of the funeral to the amount of $120, are paid by the association.

* * *

M. Sergey Friede, who is one of the leading business men in Manchuria, was in San Francisco recently. He said it is a great mistake for America to oppose the occupation of Manchuria by Russia. The United States, especially California, will reap great trade benefits if Russia controls his country but if she does not it will be otherwise.

* * *

A great and useful discovery has been made by W. Pokell of Liverpool By immersing any kind of wood in a hot solution of sugar for several hours, and then drying it, it becomes hard an dstrong with powerful resistive properties to change of temperature or fire.

* * *

It having been asserted that beet sugar is not so sweet as that made from cane, the American Beet Sugar company, and the Los Alamitos Sugar man have issued statements offering proofs of the error of the statement and they make out a strong case.

* * *

The State appropriation of $60,000 for the development of irrigation, and the co-operation of the general government with the state, has created a lively interest in the subject. When the proposed irrigation works are finished the state will be many millions wealthier than now.

SAVED ONE LEMON GROWER $3000 IN A NIGHT.

J. P. Bolton's frost alarm has proven a success for one fruit grower in the Kings River country managing a large lemon and orange grove. He says it has saved him as much as $3000 in one night. N. W. Moody and a neighbor set one of the alarms and on Tuesday at midnight each was aroused by the continuous ringing of the frost bell. Mr. Moody says in a letter today:

"I have been up since 12:30 this (Tuesday) morning. The bell rang at that time, and I got four Japs out and began to smudge."

Mr. Moody was warned in ample time, and acting at once, saved the lemon crop from a severe frost, fighting which at the least calculation saved him $3000.—Fresno Democrat, Dec. 13, '03.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

BRAVELY SPOKEN.

One of the large fruit trade journals; which, by the way, is the official organ of the National League of Commission Merchants, recently contained an editorial defending itself for not attacking the California Fruit Agency. It seems that a number of the patrons of this eastern journal found fault with it for not condemning the agency for signing exclusive contracts with several Buffalo dealers. Answer to these strictures was made in no mincing terms. The principle was set forth that the agency had committed no illegal act in making contracts with dealers to buy exclusively from the agency's factors. It was set forth broadly that such contracts did no one injury, that they were open to all and were in accordance to business practice in all commercial circles. It is not often a commission trades paper takes such a broad view of the policy of an institution which in its execution necessarily comes in contact with the interests of a majority of the journal's patrons. It is for this reason that the Cultivator wishes to point to the fact that the California co-operators have a few well-wishers and friends even among the people who suffer loss of trade and prestige from the dominance of a mutual system of selling citrus fruits.

On the other hand there are a few violent enemies of the agency among the eastern fruit trade papers. They object principally to the loss in commissions caused by the division of fruit merchandising from the commission men to the salaried agents of the agency. These papers cannot be blamed for fighting for their patrons, but we must place their opposition as selfish, and therefore not in the interests of the fruit grower unless the commission system is the most advantageous to the growers' business. Events of ten years since have proved that ruinous conditions prevailed when the commission merchant had the California citrus fruit growers by the throats. No argument being needed while the memory of the commission men's dealings remains green, we may consider some other phases of the opposition.

The pleaders for the old order of merchandising fruit are located in a few centers of trade, and had grown into the belief that these centers had divine right of control. As an example, one of these centers had assumed to control the distribution of a certain fruit product of Central California. When an organization similar to the agency, though not so potent, attempted to interfere by establishing its own centers and methods of distribution it was informed that rather than see the distributing center interfered with the merchants of that great city would see that the distribution (the sale) of the commodity should be hampered in every way, even to stopping orders for the fruit generally, if necessary. That, and other threats and lines of opposition practically squelched the organization with its thousands of members, and we hear of it no more as a controlling factor in the marketing of its own products. Imagine the answer the California Fruit Agency would give to a mandate requiring the agency to cease the distribution of citrus fruits. Growers should rejoice in the fact that they have established an institution that takes orders from no one but themselves, and cannot be frightened or cajoled into taking any course adverse to the growers' interests. In acknowledging one friend in the ranks of the enemy the Cultivator does but simple justice to the Fruitman's Guide, for its words were bravely spoken and at a sacrifice to the standing of that journal among the radical commission men, from whom a part of its support comes.

We have fired the first gun in recognition of Panama's independence.

In China the soldier carries an umbrella and fan and rattle-box. In time of battle he generally gets rattled.

An Old Established Citrus Nursery in Good Location

A Description of W. G. Hall's Glendora Nursery, Where Trees Are True to Name

TO THE EAST of Los Angeles about twenty-five miles next to the foothills between Azusa and Glendora is a section where the perfection of conditions for producing citrus trees and citrus fruits are as favorable, we believe, as any place in the world. This is not our opinion alone, but first premium has been obtained by fruit from this section at the World's Fair at Chicago, also at the Mid-Winter Fair at San Francisco. This latter premium was on fruit which W. G. Hall of the Glendora Citrus Nurseries personally selected.

Further proof, if needed, is given in the financial returns which some of the growers of that vicinity have secured. For instance, two acres of Valencias netted the owner an average of a thousand dollars per acre for the past five years.

Sure it is that some of the most magnificent oranges we have ever seen, have been grown in that section. Firm, meaty, with but little rag, and of a flavor that would tempt the most fastidious lover of citrus fruits. This may be due to the climatic conditions which are so favorable, or it may be due to the conditions of soil and water; or it may be due to the excellent care which is given to orchards in that section, more probably it is due to all combined.

In any case, the fruit is proof of the possibilities of this section and these possibilities have led on to a development of orchard trees from seed-bed to bearing which are as fine as any we have ever seen.

One of the nurseries where these thrifty trees have been produced in exceedingly large numbers, is that of W. G. Hall the Glendora Nurseryman. Mr. Hall's Nurseries are located one mile south and west of Glendora on a beautiful section of sandy loam land, where his success has led to the increase in acreage until now there are many acres covered with seek-bed stock, or with stocky young trees ready for the budding, also with the choicest trees to be found anywhere ready for planting in the orchard.

Mr. Hall is a practical nurseryman of many year's experience and follows every step which the tree takes from selecting the seed for the seed-bed to the final balling of the tree for the orchard. His seed, carefully selected from large, thrifty seeds from the orchard of Dr. Dorsey in Los Angeles, are planted far enough apart in the lath house to give the stocky tree.

And by stocky we mean a tree which not only reaches a heigth of eight to thirty inches, as the case may be, but in girth at the base shows a size in good proportion with the heigth. Some of them are large enough, that so far as size goes, might be budded while still standing in the seed-bed. He guarantees all trees to be at least six inches in heigth, or if so desired, will guarantee not to be less than eight inches, and in sorting, all below this heigth will be thrown out.

Probably no one point in selecting trees for orchard planting is of greater importance than in securing trees the buds for which were selected with utmost care as to the trees being true to name. In this Mr. Hall has personally superintended, and has, as far as possible, personally selected and budded. Selecting the buds from the choicest trees grown in his section the growth of which he has observed for years.

Mr. Hall is ready to guarantee and does guarantee all of his own stock to be true to name.

As to freedom from any pest or disease, assurance may be had, that perfect freedom exists as to pests if any ever did exist in the nursery. Mr. Hall's practical experience for years in fumigation is such that he would readily secure perfect disinfection before removing trees from his place. His nurseries are ready for inspection at all times of the year, being kept clean.

In fertilizing, no quick acting, so called "stimulating" fertilizers are used, but such as are used to induce strong vigorous growth leave the trees in a healthy condition and enables them to stand the transplanting period with the least possible shock. This condition is proved by the dark green color and general appearance of healthiness over the entire nursery.

As to kinds of stock on which to bud citrus trees, Mr. Hall has no particular hobby, but at the same time advises the lesson of the experience of years of planting of orange roots. Of course, most of the old, tried and heavy bearing orchards of the state are upon the sweet seedling stock. This Mr. Hall maintains has proved a perfect success, and while not denying that some of the newer stocks may be proved as great or possibly of greater success, the general planter cannot afford to ignore the success which has been achieved by the sweet stock, or the possibility of disappointment which may come by heavy planting of stock budded on untried roots.

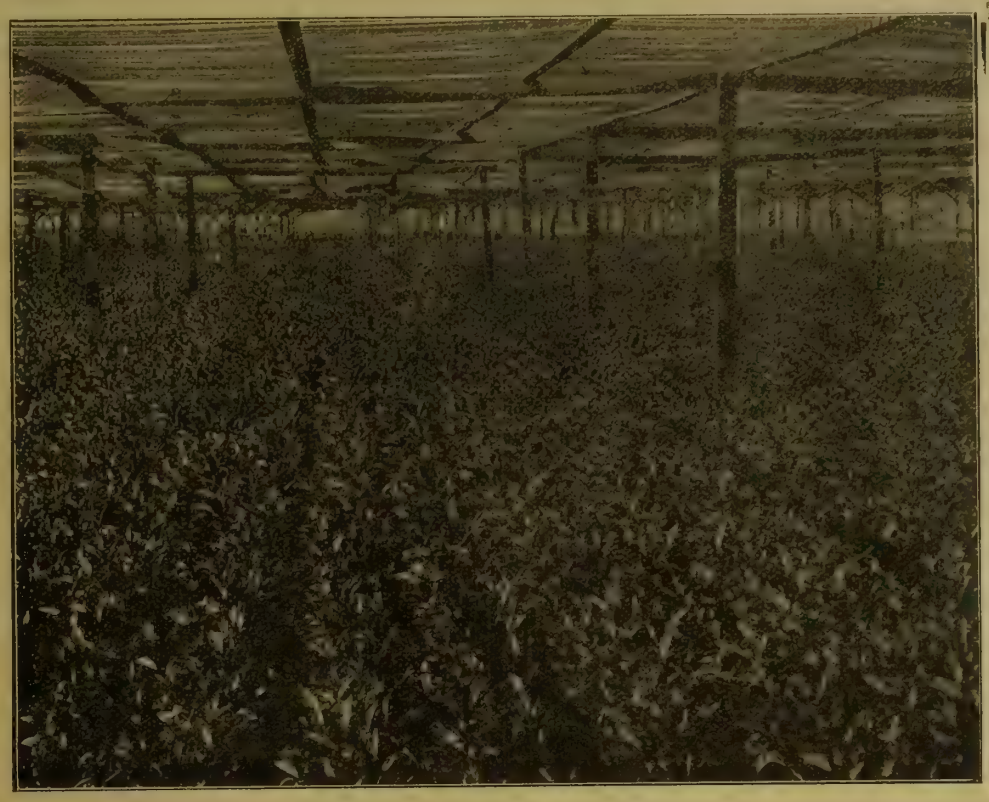
The budded trees now in nursery row are of a size and condition to attract the critical buyer. One year buds on two year roots with symmetrical head.

The care in selecting seed, buds and in growing thrifty seedlings and stocky straight buds is supplemented by the greatest care in taking the trees from the ground. Tap roots are cut as deeply as possible and each tree is taken from the ground with a large ball of earth and held in place by burlap.

The utmost care is used to place these on board cars in a condition to carry any rersonable distance.

"Trees true to name and grown for the grower" is Mr. Hall's motto and this he has lived up to for the past twelve years in which he has been dealing in nursery stock. He has made his stock a profitable investment for the planter. That's more interesting than talk. Same as a look at the nursery stock is much more satisfying than the dry reading on this page.

The nursery stock shown in the larger cut above was planted in April '02, bud ded Nov. '02, photographed Oct. '03



IN THE SEED-BED HOUSE.

TREES IN NURSERY READY FOR PLANTING.

LAND AND WATER

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

PEACHES FOR HOT DRY REGIONS.

A request from a correspondent at Wickenburg, Arizona, for information as to what varieties of peaches to plant there, where the trees may be obtained, and when they should be set out suggests a discussion of peach-growing in dry interior districts. In such regions not only are the summers trying, but frosts are heavier and more frequent during winter early spring than along the coast in similar latitudes. Consequently varieties should be selected that bloom at such a time as to escape as many of the early spring frosts as practicable and that will produce fruit of a good quality the succeeding summer. Injury from spring frosts may be wholly or partially escaped by either early or very late blooming; and a good quality of fruit may result from ripening during such a part of the season as to escape the extreme heat, or from an ability on the part of the tree to ripen fruit satisfactorily during hot weather.

* * *

Of the varieties best suited for warm regions, subject to spring frosts, several are of the Chinese type. Many varieties of this class bloom before the March frosts, and when the latter occur the young fruit is of a sufficient size to endure quite low temperatures. At the Station farm near Phoenix trees of this group seldom fail to bear a heavy crop of fruit. Of some varieties, however, the quality is not satisfactory. The most desirable varieties tested at the Phoenx farm are the Sneed, Greensboro, Waldo, Berenice and Sylphide Cling. The five ripen in the above order, covering the season from the latter part of May to the middle of September. The last is an excellent peach for hot regions, the quality being good and the tree very prolific. Dallas, General Lee, Thurber and Oriole are also fairly desirable varieties of the above type.

* * *

Of the Persian type, the varieties that bloom late and thus escape the March frosts are the ones that are the surest bearers, and those that ripen their fruit during fall are the ones that produce fruit of the best quality. The fruit of the early Persian varieties that ripen before the heat of summer is fairly good, though not quite up to the standard of cooler regions; that ripening during the heat of the summer is as a rule inferior, while that ripening during the cooler weather of fall is as a rule good. Among the best thoroughly tested varieties of the Persian type for hot regions are the Alexander, Governor Garland, Saint John, Piquet's Late, Columbia, Smock, Salway, Bonanza and Bilyeu's Late, naming them in about the order of ripening, the first maturing about the first of June and the last about the middle of November.

* * *

Of the above the Bonanza is an excellent variety from many standpoints. It is a very heavy and quite regular bearer, and the fruit is of excellent quality, ripening during October, just after Salway. Trees of this variety are not now offered for sale by California nurserymen, because it is said to have been found subject to curl and mildew. But as these diseases are unknown in the dry, hot interior valleys, there is no reason why its culture should not become general in them. A nurseryman began the propagation of trees of this variety near Phoenix some years ago, but the scarcity of water during the past few years has caused the nursery business to be so precarious in this region that, so far as known to the writer, none are now available for setting. Four-year-old Arizona-grown trees produced one hundred pounds per tree during the past season. The fruit was of a large size, showy, rich, and slow to deteriorate.

* * *

With the exception of the Bonanza, the Persian varieties mentioned can be obtained of California nurserymen. Many of those of the Chinese type are not offered for sale in California, but can be obtained of the well-known nursery of P. J. Berckmans Company, Augusta, Georgia. A large percentage of the varieties propagated at this nursery has proven especially desirable ones for the region about Phoenix.

* * *

Trees are set out during February, the earlier during the month the better, most seasons. It is important that they be set just at the beginning of the growing season and that every precaution be taken to prevent the tops drying out before or just after setting. They should be irrigated soon after being set out, and need frequent irrigation throughout the first season. As the trees get older, a larger percentage of the irrigation water may be applied during the winter, and less during summer.

* * *

TREES FOR THE VALLEY OF THE COLORADO.

From the physician at the Fort Mojave Indian School and from the Imperial land owner come requests for information as to what Eucalypts or other trees are likely to do best in these regions. The summer heat is so great there that it is doubtful if any rapid-growing Eucalypt will thrive. E. polyanthema ought to grow, and it would be well to try E. rudis, E. tereticornis anl E. rostrata.

The cottonwood is sure to thrive in these hot regions, if supplied with plenty of water. It may be propagated from either seed or cuttings. If the former are used, half of the resulting trees will ordinarily be females, and will produce the cotton that is so annoying to the farmer during spring. By taking cuttings from male trees, this objectionable feature may be avoided. The size of the cuttings is not important, the majority of the cottonwood trees growing in the vicinity of Phoenix having started from fence posts.

For a deciduous shade tree in very hot regions, none is better than the Texas umbrella. If supplied with sufficient water, it will not only endure but flourish in t he hottest weather of summer. The early growth is injured by late spring frosts and the leaves fall soon after the first frosts of autumn, but during the warm part of the year the foliage is abundant. It is a dark rich green, very pleasing to the eye in an arid region where so much of the mature foliage has a grayish hue. The trunk of the tree is short and the branches small, the wood produced being thus scanty—and furthermore it is of a poor quality; but for shade and ornament the tree is a very useful one in hot regions.

The olive grows well in these hot interior valleys, and makes an attractive as well as a useful shade tree. In the vicinity of Phoenix, the Navadill is one of the fastest growing and most prolific varieties.

Authorities in England estimate the requirements of the wheat importing countries for the current cereal year, at 62,000,000 quarters of a ton.

Encinal Nurseries

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SANTA CLARA CO., CAL.
F. C. WILLSON, PROPRIETOR

Leading Varieties of
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"OWNER," Box 11, care Cal. Cultivator, Los Angeles.

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DISTRIBUTOR FOR SO. CAL.

BY J. W. MILLS, ONTARIO, CAL.

SUGAR PRUNE AND PHENOMENAL BERRY.

Editor Cultivator:—Will you please inform me through your paper what kind of prune the Burbank Sugar is, and where one could get the trees? Also what difference there is between the Logan and Phenomenal berries. I have the Logan, but never heard of the other till I read of it in last week's Cultivator.—Isaac Martin, La Costa.

The Sugar prune is the sweetest prune grown. It ripens about a month earlier than the ordinary French prune and is about three times as large. It contains about 23 per cent sugar in the fresh state as compared with about 19 per cent in the French prune. It is about the same color as the latter and a little nearer round in shape. It is considered a very valuable acquisition in the northern prune districts. After three years' trial, after it had reached the bearing stage at this station, we marked it down as a failure with us. It did not bear as well as the Prune D'Ente or the other strains of French prunes, nor was the fruit as free from blemishes. Its chief fault here was that it invariably cracked open. Our specimen was grafted on a very vigorous Damson tree and had the whole tree to itself.

Trees of the Sugar prune may be bought from any of the nurserymen who advertise in the Cultivator.

The Phenomenal berry was originated by Luther Burbank in the early nineties and following is his description of it furnished us by Prof. E. J. Wickson. "Larger than the largest berry ever known before, of bright crimson raspberry red color, productive as could be considered and the most delicious of all berries for canning and drying; berries grown in clusters of from five to six or more and individual berries often measuring three inches around one way by four the other, and weigh one-fourth of an ounce each, even larger ones have been weighed and measured." John Lewis Childs of Floral Park, New York, bought Mr. Burbank's entire stock of this berry and some of them have been sold in California. J. L. Childs gave it the name of "Phenomenal." During the last few years it has given good satisfaction and is preferred to the Logan berry by some people, it being less acid and of fine flavor, making it desirable for table use. We suppose that plants of it can be secured from our nurserymen. If they do not keep it in stock, they can secure it or you may send to the above address.

* * *

BERMUDA GRASS.

Editor Cultivator:—As I am much interested in growing grasses, would you tell me if the grass known as Bermuda grass is an imported grass or a native of America, and do you know where I can get the seed, and about how much it takes to the acre?—A. Frinchaboy, Los Alamos.

We have been unable to find an authority who is willing to give the nativity of Bermuda grass. There are four species of it, the one so common in California being Capriola dactylon (called by some botanists Cynodon dactylon). This plant propagates easily from the seed under favorable conditions, but it does not under unfavorable conditions. The best way is to secure the roots or even the grass itself, cut them up with a hay cutter and sow the chopped stuff broadcast and cultivate it in immediately. The best time to do this is immediately after a rain, or better still, just before one if it can be definitely known when that will happen. If the grass or roots become dry they will not grow. The grass can be found almost anywhere within the boundaries of this state. It is almost always found growing along open irrigation ditches and along roadsides. The best way to get a start of it is to travel around the country, provided you have none at home, dig it and sack it up. There will be no difficulty in finding farmers who will be perfectly willing to allow you to do that.

IDLE PEARS AND CHERRIES.

Editor Cultivator:—I have a large cherry tree and also a large pear tree that bloom full every year but do not bear anything. Can you tell me what to do for them to make them bear?—E. P. Upland.

The information is a little too meager to enable us to make a very close guess as to the trouble. Had we the names of the varieties, or if the trees are isolated, a satisfactory answer would be much easier to give. It has been our observation that cherry trees of the Rigarreaux and Hearts bear late in the valley. The trees blooming profusely without bearing until they are about ten years old, after which time they bear satisfactory crops. We know of no way to make them bear younger unless by root pruning. This can be done by digging a trench on two sides and severing a few of the smaller roots that branch from the main roots. We do not advocate this method for this climate and especially where abundant irrigation is required. We believe that they need all the roots that they can grow. Root pruning is sometimes practiced where the growth of the trees is so vigorous that the energy of the tree is thus used instead of bearing fruit.

As to the pear tree, we suspect that the bloom is not fertilized properly. Some varieties never bear with us, while others do better under some conditions when cross polinated by another variety. This is quite true of the Bartlett.

* * *

INFLUENCE OF STOCK ON SCION.

The results of recent experiments and observations recorded by the Academy of Science at Paris, show that pears grafted on quince yield more abundantly, and better fruit is produced than when grafted on pear seedlings, and causes of the phenomenon are explained. It seems that more material is concentrated in the trunk and branches of a pear tree grown on quince than in one grown on a pear seedling. When the growing time comes in the spring, the tree is better able to contribute starch and as a consequence, more fruit is the result. Having a good and vigorous start from the beginning, larger and finer fruit is the result. No explanation of the cause is given, but it is found to be a fact.

Pears on quince is all right as far as they go, but for a permanent orchard, standard trees are much more desirable. When it is an object to raise a quick crop between the rows of standard trees, which must be at least 25 or 30 feet apart, the spaces may be planted to dwarf trees. These will bear the second year and may be removed by the time the standard trees come into bearing.

There will no doubt be many acres of Bartlett pears planted in the near future, as that variety was pretty well cleaned out in some sections by the blight during the past four or five years. The blight seems to have run its course to a certain extent and growers have learned to check its ravages to a large degree. Some Bartlett pear orchards which seemed to be doomed have been saved with comparatively little loss. Quick and severe cutting back and burning of affected branches as soon as the first sign of the disease shows has done this, practically eradicating the disease from some orchards.

A new olive oil plant has been started in Santa Ana on a large scale. Mr. Cherry is building the largest oil pressing machine in the state to be used in this plant.

BY J. W. MILLS, ONTARIO, CAL.

STABLE MANURE FOR ORANGES.

During the past month, several orange groves that have come under our observation have been heavily fertilized with stable manure. According to the judgment of the most careful growers, this is a mistake. It is very apt to start a new growth when trees are inclined to do so, as is the case during some seasons, but the chief objection is in the effect that it is apt to have on the fruit. Puffy fruit is much in evidence some seasons while other seasons it is almost unknown. Just why this is so has never been clearly explained, but it has been noted that trees which have been heavily fertilized with stable manure and other nitrogenous fertilizers while the fruit is still growing and just before it colors, becomes more puffy than fruit on trees not so treated. When the natural conditions occur which produce puffing, fruit which has received late fall or early winter applications of available nitrogenous fertilizers, seems to be more injured than fruit which has not received it at those times. Another disadvantage is that the winter rains wash a large amount of the elements containing the nitrogen in liquid form, beyond the reach of the great mass of the feeding roots.

* * *

A neat book on fertilizers by Carrol B. Smith has just reached us, and from its contents we believe it will be of much benefit to orange growers. It lays down the principles of fertilization as far as the science is now known, and we are much pleased with it. While Mr. Smith sells fertilizers, he is primarily an orange grower and an agricultural college graduate. He has the subject well in hand and gives in a few words what would take much time to gather from agricultural reports.

FINE NURSERY STOCK

We are now opening our sales yard at No. 632 S. Spring St., Los Angeles. We will soon have on hand a full line of northern as well as home-grown Deciduous Trees in quantity. Also some of finest Citrus Trees grown in the South. Having had between 26 and 80 years' experience in fruit and tree planting, we are enabled to offer suggestions as to best and most profitable varieties for Southern California. Ornamentals and Trees for street and lawn planting. Yours truly,

STEWART BROTHERS

632 S. Spring Street — Los Angeles, Cal.

NO EXCEPTION

Last year we said the Tilton Apricot was a regular bearer. NEVER FAILS. This year is no exception. Every tree bore heavily; old ones as well as the newer planted orchards.

Fifteen Years' Test

and still the

TILTON APRICOT

Is a winner. Large, highly flavored, good color. In the dried fruits the Tilton won First Premium at the Great Central California Fair. Liked by canners. Original tree 18 years old near our nursery. Buy trees where you can get true to name buds from original stock from the Original Tilton Nurseryman. A thrifty lot of peaches and other deciduous trees.

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We grow what we sell and are therefore in a position to know what we are furnishing the planter. In our nursery we have about 400,000 fruit trees, comprising all the leading varieties of deciduous stock. Also shade and ornamental trees, roses, palms, etc.

We call special attention to our stock of grape roots. Cuttings have been selected from nothing but strong and healthy vineyards and have been fumigated with hydrocyanic acid gas before planting in nursery. We can absolutely guarantee this stock free from disease. The list comprises all the leading wine, table and raisin grape varieties, also resistants.

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The only Fig that is fit for commercial purposes. It has proven a grand success in California, and orchardists should not hesitate to plant liberal acreage. **"The Smyrna Fig at Home and Abroad,"** by Geo. C. Roeding, 87 pages illustrated, sent postpaid, 25c (stamps).

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GEO. C. ROEDING, PRESIDENT AND MANAGER

P.O. BOX 14 — **FRESNO, CAL.**

Conducted by PROF. A. J. COOK, Claremont, Cal.

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A B C OF INSECTS.

It will be remembered that we separate the class of insects into orders by noting the wing characters, mouth parts and transformations. Today, we have to do with the ubiquitous thrips. I know of no insect which has a wider range or is more numerous than are these innumerable insects of the thrips order. From the great damage which the thrips have done in our citrus orchards for the past year or two, this order is of no mean importance and will be studied with no little interest by our orchardists. We can hardly go amiss of the thrips. Hardly a flower but serves them for a home and food, hardly a leaf that does not furnish them a playground, hardly a twig where we may not see them on promenade. Although there are but few species, they really make a host, and as we consider their numbers, we can not wonder that they may work havoc.

Linnaeus placed these with the bugs in the order Hemiptera. I think there is excellent reason for removing them from that order and placing them in an order by themselves. As they all have long, slim, simple fringed wings, the name of Thysenoptera which has been given to them seems most appropriate. This word means tassel-wings. These long slim wings lie on the back of the insect when not in use. The fringe, while it adds not much to the weight, does add to the wing expanse. The mouth parts, too, are different from the bugs'. In structure they are more like the mandibulate or biting insects, though they are quite modified from the insects of every other order. Functionally, however, their mouth parts are haustellate, that is, they suck. The transformations, too, mark them as peculiar. While they seem incomplete in their transformations and do not look much alike in all stages, yet the pupa is inactive.

Thus we see that these thrips are betwixt and between, both as to mouth parts and as to transformation and are well worthy a place in an order by themselves.

There is no doubt but that the thrips do immense damage. True, most of them are exceedingly minute, scarcely more than one-twenty-fifth of an inch in length, yet they are countless in numbers and it takes much to feed so many mouths. Thrips are very long narrow insects. The antennae are quite distinct as are the eyes. The number of joints to the antennae and the number of hairs on them serve well in classification. These insects are also curious in the ends of their feet. Instead of the usual claws, the feet end in a sort of bladder which, by distension, they are enabled to hold onto objects on which they walk. It is interesting to watch these in a microscope on a glass slide and to note the curious manner in which they manipulate these bladder like feet. Some have called the order Physopoda, which word means bladder-feet.

We have black, yellow and orange thrips abundant in Southern California. Some of our friends think that the black thrips feed upon other insects and thus may aid in keeping the black scale in check. I have yet to see positive proof of this. The yellow thrip, which has done so much damage in the citrus orchards is Euthrips tritici. As we would expect, it does very little intrinsic value to the fruit, as from its size it can affect only the most superficial cells, yet the injury is sufficient so that the fruit is badly spotted and thus is wholly ruined for market. Indeed, the injury is so slight that only the sharpest eyes can note it as the fruit is picked, and as the fruit is left on the tree so that it can continue to receive sap, it entirely recovers from the wound, so that no spotting is in evidence; but if the fruit is picked and the lemons placed in the curing house and the oranges put in the cars for shipment, in from one to three or four weeks the spots turn brown and become very evident and thus the fruit, though really uninjured, is so disfigured that no purchaser would take it.

Without doubt there are some insect enemies that prey upon the thrips. Heavy dashing rains will destroy them by the millions. I have no doubt but that in the use of distillate spray we will destroy these despoilers in extenso. From the fact that in previous years this spotting by thrips has been observed hardly at all, leads us to hope that the raids upon our orchards the last two winters was because of some peculiar seasonal characteristics and that we shall not in the future be so much troubled. Mr. Frederick Maskew has recently observed that guavas are injured in many places. Examination shows that where the fruit is injured, thrips are very numerous, while upon other shrubs where no injury is noted there seems to be an entire absence of the insect. It is possible that our thrips misery has yet only dawned upon us.

* * *

FARMERS' CLUB INSTITUTE.

This great annual meeting which will occur at San Diego December 2-4, bids fair to rival any of its predecessors in interest and importance. It will commence Wednesday, p.m., and close on Friday. Important themes will be presented by many of our strongest men and the program will be one of the richest we have ever had. Mr. R. C. Allen, who is chairman of the committee of arrangements writes me that the local interest is very great, and he believes we will have a local attendance equal to that of the Pomona meeting. A banquet and a boat-ride on the bay are among the attractions. Those to be present who will engage in the discussions and read papers will be Messrs. Teague, of Santa Paula. Mr. Braunton, and Goodrich, the strawberry king, of Glendale and Tropico, respectively, Dr. Gates, of Pomona College; Horticultural Commissioner Pease, and Dr. Reid and Mr. Hoffman, and we also hope Mr. Edwards of San Bernardino county; Messrs. Mills and Little of the celebrated Arlington orchards, and J. H. Reed, also of Riverside county; Hon. Edward M. Camp of Los Angeles; C. C. Chapman and Prof. Pierce, of Orange; and Messrs. Austin, Copeland, Allen and Prof. Culbertson from San Diego county. We had hoped for Mr. Hamilton of the Department of Agriculture, but fear he will be unable to be with us. There is a chance, however, that Mr. W. A. Taylor, of the department, a graduate of the Michigan Agricultural College, who is an expert in pomological matters, may be with us and aid us in our discussion. Dr. and Mrs. Sherman, of Fresno, who did so much for us in our late institutes and were such good help in the Seaside Institute, will both be on the program. It is hoped and expected that Prof. Wickson will be present. Every club should arrange at once to send a good delegation. In this way the fruits of the meeting will be broadly distributed and the clubs will gain new interest from the inspiration which will come from a full report of the proceedings of this meeting. It will be remembered that the state meeting of the Horticultural Commission will occur the next week at Fresno. It is the writers' intention to be present at that meeting and he hopes that a good delegation will go from Southern California.

An effort is being made to secure a full report of the San Diego meeting. This matter of report is one of exceeding interest and importance and it is hoped that Prof. Wickson will come with something of value in this connection. There is a widespread desire that we should have a complete report including discussions of our two great meetings, the Farmers' Club Institute and the Seaside Institute. I hope the various clubs will discus this matter and come to us rich with suggestions as to ways and means.

* * *

COCKROACHES IN THE CELLAR.

Mrs. McDaniels asks for something to exterminate an insect which infests her cellar She says it is dark brown and about one half inch long and gives off a rank odor. They are abundant under boxes and boards and when exposed dart away and disappear as by magic. Those who have read my A B C of Insects carefully, and I hope all of our readers have done so, as an elementary knowledge of entomology is very helpful in almost any line of life. will at once detect the above as the common cockroach, which belongs to the locust and cricket order. These flat insects frequent cellars and sugar refineries and are often quite a pest. There are two ways to exterminate these pests of the cellar. A liberal use of insect powder, dusted about their haunts will soon use them up. The same can be done by administering poison. Bran sweetened with syrup and poisoned with arsenic or other poisonous insecticide is a sure remedy. I always give this last with hesitation as I fear accident from the careless use of such poisons.

* * *

FLORIDA BULLETINS.

Mr. R. asks if the Florida bulletins would be especially valuable to the California orchardists. Of course they will be. I prize them highly. True, Florida is a humid region and so management must be very different from that which we give in an arid clime. Yet they grow citrus fruits and have much in common with us, and so the bulletins of the two States ought to be mutually helpful.

* * *

ALKALI.

Mr. R. also states that along the edge of his water ditches between two groves, after the water stops running and the ditch becomes dry, a white substance that looks like alkali appears at a level about two feet below the surface of the ground. Below this, about three feet down is the hardpan. An analysis should be necessary to state just what this salt is. It may be one of the elements of our alkali. This is certainly the most probable explanation of this incrustation. Mr. R. should send some of this to the University for analysis, so that he may know whether it is white alkali, black alkali, or common salt.

THE FARMERS' CLUB INSTITUTE.

Prof. A. J. Cook announces an institute to be held at San Diego, on the 3 and 4 of December. The programme is quite lengthy and embraces the names of some excellent men and women who are to take part.

WANTED—Reliable, sober, middle-aged, single man for ranch work. One with experience in fruit and gardening, and not afraid to work. Address MRS. OSSINA LOW, Box 61, Glendale, Cal.

WANTED—A GOOD LOCATION for Bees convenient to Los Angeles. Address J. H., CULTIVATOR OFFICE.

GO TO GARDENA

Where the alfalfa grows so luxuriantly, giving from 6 to 8 cuttings per year, and producing when fed to cows a superior product of milk and butter—the secret — there being no alkali to detract from the purity of the milk, as demonstrated by the noted Strawberry Brand of Butter made by Mr. Davis of Gardena. The success of our Chicken Ranches depends upon having green alfalfa as a food product in the production of eggs at a time of the year when the dry ranch farmer has no green feed to make the hens lay. Our small alfalfa, dairy and chicken ranches are making good livings.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset with bearing fruit trees. Berries, one acre of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 8 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room honse, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house and barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

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Wells drilled in first-class manner from six inches diameter to any size desired. Pumps installed.

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Citrus Stock

A FINE LOT

FOR NAVELS VALENCIA NAVELENCIA LEMONS **1903**

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FINE ORANGE TREES

One-year Buds on two-year roots.

Navels and Valencias

H. M. COLE

P. O. BOX 455

So. Hill Ave. Pasadena, Cal.

Coast News and Notes

BY R. A. DAGUE, COR. SUTTER AND SANSOME STS., SAN FRANCISCO

HORTICULTURE.

The olive crop this year is good.

It has been demonstrated that Kings county grows soft-shell walnuts very successfully.

Navel oranges from Oroville and Poterville, were shipped into San Francisco on the 11th of November.

The Vrooman ranch, near Santa Rosa, this year, produced three tons of very fine French Farquette walnuts.

Two thousand tons of prunes is the output around Hollister this year against 3000 tons last season.

I. N. Davidson, near Porterville, will gather this season about 1,000 boxes of lemons from his orchard of 3½ acres.

S. P. Woodworth, of Stony Point, Sonoma county, has this season shipped 1,800 boxes of fine Spitzenburg apples.

The Southern Pacific and Santa Fe estimate that from this time on they will ship 200 carloads of oranges per day.

W. R. Fuller, of Tampa, Florida, says the Florida crop of oranges, this year, will be 1,600,000 boxes against 750,000 boxes last year.

The Pacific Coast Fruit Packing Company, stocked at $50,000, has been organized at Oakland. It will soon begin erecting buildings.

The total shipments of fruit this season made by the California Fruit Distributors, at this writing, were 7,315 car loads as against 6,990 of even date last year.

J. M. Zion, an Indiana horticulturist, says his greatest ambition in life is to produce a 20-inch apple. He is experimenting and thinks he will soon succeed.

Two hundred and fifty cases of Washington Navel orange trees have been shipped from the San Dimas nursery, to six experimental stations in Italy.

The fruit growers of the Pajaro valley have banded together and built an electric railroad to the coast and put on a steamer to carry their fruit to San Francisco.

The coming orange crop of California is estimated at 35,000 car loads and growers are anxious to know whether the market can be stimulated to consume them at profitable prices.

The Red Banks orchard company, with a capital stock of $125,000, has been organized at Visalia. The orchard is twelve miles east of Visalia. Eighty acres are now planted to nursery stock. Citrus fruits will be largely planted.

The Hanford Sentinel, after calling attention to the great success Mr. Rafailovich has attained in raising the White Adriatic figs, says: "The fig industry is greatly neglected here, and yet that fruit grows to perfection in Kings county.

Up to November 14th, there have been received by the Fresno Raisin Association, 46,000 tons of raisins. This is 550 tons in excess of last year's total deliveries. The price paid is $3.13 on packed out goods. This has amounted in money to $2,400,000.

The method of crossing two fruits, says Marcus Woodward, is simplicity itself. The horticulturist merely takes the pollen from the flower of one specimen and dusts it into the stigma of the flower of another specimen. The result is a hybrid.

Tom Davis, 16 miles northeast of Visalia, says that while it is known that generally Valencia oranges are picked in May, he has a peculiar experience with his Valencias. Last year they ripened in November. He gathered a few out left many on the trees. In the spring they turned green. This fall the fruit turned yellow again ,and is sweet and delicious.

AGRICULTURE.

The Quinby Brothers of Angiola, Kings county, have been experimenting on growing rice. Although the experiment was made on a small scale it has been a decided success.

The late experiment to raise cotton in Liberia has failed because cotton will not grow there.

The farmer has the advantage that people cannot enjoy who live on food from paper bags. He can know what he eats.

The beet raisers of Southern California recieve each year over one million dollars for beets.

A farmer of Meridian, Sutter county, broke up 30 acres of raw tule land this spring, on which he raised $2,455 worth of beans.

It has been figured out that a ton of California corn carries 22 per cent of cob or 440 pounds of cob to the ton of corn in the ear.

Ordinary years Minnesota raises an abundance of potatoes. This year they are being imported from the Dakotas.

Kings county comes forward with the claim that chestnuts, walnuts, pecans, peanuts and almonds are easily and profitably grown there.

The bean market is stiffening up a little in Ventura and Santa Barbara counties. At this writing limas are firm at $2.50; black eyes at $2.00.

Grain dealers in San Francisco have received information that the wheat crop of Argentina, S. A., is splendid. There will be 2,500,000 tons for export.

A few days ago Farmer & Peterson, of Sonoma county, contracted with William Uhlman & Co. to sell the latter their hop crop for the next five years at 12½ cents.

C. R. Scott, of Tulare, enjoys the distinction of being the first man to introduce in California a new forage plant called Teosinti which much resembles Indian corn.

The largest cargo of flour ever floated, left Portland the 7th instant for Oriental ports, on the steamship "Algoa." She had on board 85,270 barrels or 20,000 more than was ever loaded on a ship.

Dwight Griswold, the "strawberry king" of Tropico, will represent the Tropico Association at the Farmers' Institute at San Diego in December and will read a paper on strawberry culture.

There is now on exhibition at the rooms of the State Board of Trade, four clusters of Verdel grapes that weigh twenty-nine pounds. They were raised by Louis Mell, of El Mocho. The grapes will be sent to the St. Louis Exposition.

Fresno grape growers say they are secure against a scarcity of laborers hereafter. Large numbers of Armenians, Russians, Danes, Germans and 1000 Japanese have settled in that vicinity. All have large families except the Japanese and the children work in the vineyards.

Co-operation and combination seem to be triumphing all along the line. The Raisin Co-operative Association, of this state, so manipulated the market, that outsiders have been so vigorously squeezed, that many of them seem to be anxious now to get in the combine.

The Oakland Enquirer says it has been demonstated many times that the Agricultural Department of the State University is worth to the public more than it costs to maintain it. It adds: "Chicken cholera may not have as high sounding or dignified a name as some of the subjects studied at Berkeley, but it means prosperity or otherwise to a good many people in Central California."

LIVE STOCK.

A pigeon farm has been established at Goleta. The owner has 4000 birds on hand.

A few days ago the Cutter Brothers of Visalia sold 100 beef cattle at eight cents.

W. C. Greene, president of the Greene Cattle Company, has bought the San Rafael ranch in Arizona of 300,000 acres, and many hundred head of Hereford cattle. The price paid for ranch and stock was $1,200,000.

D. A. PEET.....

GRAPE NURSERY

All the latest varieties. LA CANADA, CAL

Citrus Tree Bargains

We have several thousand fine orange trees, leading sorts, for sale at a special rate if taken before Dec. 1st. Headquarters for trees on Trifoliata or frost resistant root.

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ATTENTION! NURSERYMEN!

Do you want

Eucalyptus Citriodora?

I have them in seed boxes at $6.00 (cash) per 1000, if taken quick. 11 other varieties.

C. E. NEEDHAM Glendora, Cal.

F. H. Disbrow Nurseries

Largest **CITRUS SEEDLING** Nurseries in the state

We make a specialty of growing first-class citrus seedlings and have in our seed beds for next season's planting the best and most complete stock we have ever offered, including the following varieties: SWEET ORANGE, FLORIDA SOUR ORANGE, FLORIDA ROUGH LEMON, POMELO, and the hardy frostproof CITRUS TRIFOLIATA, all having their points of advantage under different conditions, as budding stocks. All our trees are home grown; no "White Fly" importations from Florida. We also have a stock of Valencia and Navel 1-yr. buds, English Walnuts, Loquats, Shade Trees, Ornamentals, Cabbage Plants, etc. For further information and prices, write us.

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Send for our Illustrated and Descriptive Catalogue of

CITRUS AND DECIDUOUS FRUITS
DIFFERENT VARIETIES OF EUCALYPTUS
ORNAMENTAL VINES, ROSES

and everything for the orchard and garden.

Ontario, Cal.

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Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,

Station K, LOS ANGELES, Cal.

SAVE MONEY!

Walker's Champion Tree Prop Bracket has been reduced to $16 per 1000 everywhere. Ask your hardware dealer for it. If ordered direct, send cash, and freight will be prepaid. Now is your time to buy the best Tree Bracket in the market.

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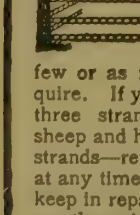

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RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.
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SHADE TREES

We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand

Roses, Palms, Ferns, Vines, Ornamental Shrubs, Etc.

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J. J. E. SAINT, PROP.
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If you are thinking of using fertilizers you will be interested to know that ninety-eight per cent. of our contracts have so far been renewed. This means that we have rendered good service by intelligent direction in the use of fertilizers, and saved our patrons money as well.

Remember, we are absolutely unprejudiced, as we have no interest in any fertilizer, and any general dealer in fertilizers can supply the materials we direct.

THOS. C. WALLACE
DIRECTOR FERTILIZER CONTROL
Phone Main 147 Riverside, Cal.

Truss and Cable Fences

Are built just like a board fence—one strand at a time, you can use as few or as many strands as you require. If you want a stock fence use three strands, when you want it sheep and hog tight add one or two strands—remember you can do this at any time you like. It is easy to keep in repair, and lasts twice as long as other wire fences.

Write for descriptive circular.

Pacific Hardware & Steel Co.
401 Mission Street, San Francisco.

Coast News and Notes

CONTINUED

The stockmen in the Alexander and Wrights valleys, Sonoma county, have lost many cattle from a disease they call scours.

For the week ending Nov. 3rd, there was shipped from Petaluma to San Francisco 24,732 dozen eggs and 568 dozen poultry.

The annual egg output of Petaluma has been estimated at 2,200,000 dozens. The output this year will reach 5,000,000.

The annual egg crop of the United States has reached $300,000,000. Except wheat, corn and hay, the egg crop is the largest.

Geo. F. Farmer of Kings county has recently lost $1000 worth of hogs that have died from the disease among the swine in some localities this fall.

State Veterinary Surgeon, Dr. C. H. Blemer, investigated the cattle disease in El Dorado county. He thinks the sickness is caused by a poisonous weed the cattle have eaten.

Dr. Ward, assistant professor of Veterinary Science in the University, denies that the recent death of cattle in Contra Costa county was caused by squirrel poison recommended by University professors.

Dr. Frank Griffith, live stock inspector of King county complains that diseased cattle have been sent into that county from Santa Barbara, San Luis Obispo and other coast counties.

MISCELLANEOUS.

A fine article of sugar can be made from the banana.

The Southern Pacific company has bought out the San Joaquin oil company. Price paid $840,000.

A dam 45 feet in height and 1000 feet in length will soon be completed at Nimshew.

There are now 1,500 male convicts and 21 female convicts in the penitentiary at San Quentin.

A colony of 300 Swedish people has decided to remove from Lindsburg, Kansas, to Fresno county, Cal.

The German empire and the United States Government are to have competitive exhibits in forestry at the World's Fair.

Col. A. W Hamilton, of Mt. Sterling, Ky., will be the presiding Judge at Ascot Park, Los Angeles, races which begin Dec. 24.

There will be two vineyard experimental stations established in Sonoma county. One will be near Sonoma, the other at Geyserville.

The output of the Oregon State salmon hatcheries will exceed 30,000,000, while the government plants will add 15,000,000 more.

The Board of County Supervisors of Sonoma county has prohibited automobiles from running to exceed twenty miles an hour on the highways.

The value of the total amount of sugar exported by sea from San Francisco during October amounted to $262,135.

Fire has kept out of the hills back of Livermore, in consequence of which many thousands of sheep have a good growth of grass and are getting fat.

The Duke of Bedford, the leading fruit dealer of London, gives Mr. Block of Santa Clara county, California, the credit of shipping the best fruit to London.

Governor Pardee recently remarked that the Sacramento valley has 6,500,000 acres of land that can be irrigated. That valley alone would, if irrigated, support 10,000,000 people.

Alex. Craw has asked for shipment of black scale from Southern California, to be used in feeding the Scutellista in the breeding cages in his rooms.

Co-operation seems to be the order of the day. The most successful association of this sort among California producers is probably the walnut growers.

Capt. S. G. Brooks, agent of the Southern Pacific Milling Co. at Santa Paula, handled during October, 27,065 sacks of produce weighing 2,165,220 pounds.

There are now in the California asylums for the insane, including the inmates of the home for feeble minded, 6104 patients.

The Santa Fe comapny has given a lease for 20 years to land in Stockton on which will be erected a $50,000 plant to manufacture starch, albumen, face-powder, glue, gluten, cereal foods and other by-products.

The people of the United States imported and consumed in the fiscal year just ended, sugar to the amount of $100,000,000 in value. Porto Rico and the Hawaiian islands furnished one fifth of that amount.

The location of the experimental Government Stations have now all been determined as follows: At Sonoma, Geyserville, Oakville, Fresno, Cucamonga, Livermore, Mountain View, Lodi and Concord.

The Santa Rosa Republican gives it as its opinion that in time the power furnished by California mountain streams will become more valuable than all the gold that has been washed from these same streams.

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

LUMPY SKIN.

Editor Cultivator:—I have a young horse that is driven a little every day, he eats well, looks well, but has some small lumps come under the skin. Will you kindly tell me cause and treatment for same.—S. W. Taylor.

Caused by an unhealthy condition of the skin, blood and circulation. Take of powdered nux vomica, potassium iodide and hyposulphate of soda each one ounce. Make into 16 powders. Mix one in the feed once a day.

* * *

Editor Cultivator:—I write to ask you if you would give me some information for the cure of bots. I have lost several yearling colts within the last month, and when I cut them open I found the opening from the stomach into the intestines completely choked with bots, and in one case the stomach was perforated in several places by the bots.—A. A.

The bot-fly deposits its eggs on the hairs of the shoulders, breast and front legs of horses running at pasture in the latter part of summer. When the horse licks these parts the warmth and moisture of the saliva hatches the eggs, and a certain portion of the small larvae pass with the food into the stomach, where they remain until the next spring, when they pass out with the excrement. If it is where they can, they bury themselves in the earth, where they remain about six weeks in the pupa stage, then they come out as a flull fledged gadfly, live only a few weeks while depositing their eggs, then die. They remain about eight months of their lifetime in the digestive organs of the horse. While in the stomach of the horse they do not create the amount of disturbance that they get the credit for. They attach themselves to the walls of the stomach by two little hooks, and obtain their nourishment by suction. They have no organs by which they can bite or bore, so it is a physological impossibility for them to penetrate the walls of the stomach. Scrape the eggs off the hairs of the horse is a good preventative. Their presence in the stomach of a horse at the time of his death frequently causes them to get the credit of killing him, when it was caused by something else.

TOLUCA NURSERY

Blackberry, Raspberry, Loganberry, Strawberry. Full line of Nursery Stock.
TOLUCA NURSERY
G. TEOSETTI TOLUCA, CAL.

STRAWBERRY PLANTS

500,000 plants of all the leading varieties, GROWN FROM PEDIGREE STOCK. Interested parties invited to visit our place and see Brandywine and Belts in full bearing.
MILLER & CORSON
Home Ranch, N. Hill Ave. Pasadena, Cal

Berry Plants

Lady Thompson, Brandywine, Excelsior. Guaranteed Eastern Stock. Also Gray's Dewberries and Blackberries. From this A1 stock inviri in soil you will get plants that will give you the highest results. Write today.
J. PARSONS Gardena, Cal.

BERRY PLANTS

Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
For descriptive list address
W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal

150,000
Arizona Everbearing Strawberries

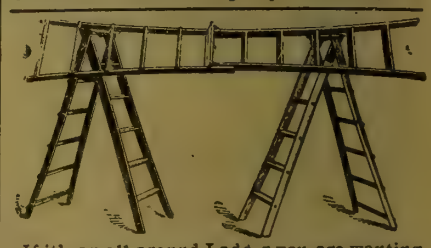
PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.
F. P. Baldosser, Covina

ONE MILLION
Gardena Dewberry
PLANTS FOR SALE
A. R. RIDEOUT Whittier, Cal.

POMONA DEEP WELL PUMP

Long stroke, steady movement, runs smoothly, perfectly noiseless.
POMONA MFG. CO., **POMONA**
or Fairbanks, Morse & Co., Los Angeles

Will You Sell Your Home? We deal in exchanges and sales anywhere in the United States. Our proposition is attractive. Write for it. Now is the time' SOME ONE OWE YOU MONEY? Our collection department is fully equipped for handling your claims. No collection, no fee. Our down to date business methods, our advertising and our success for others means success for you.
Riverside Mercantile Agency, Riverside, Cal.



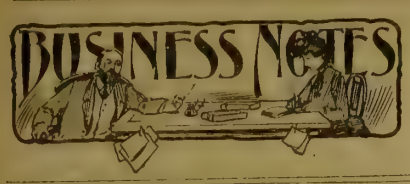
If it's an all around Ladder you are wanting our "ACME EXTENSION" can't be beat. A double Step Ladder and a Straight Ladder combined. Built of best spruce lumber, every step bolted and riveted throughout, with new automatic lock. Circular free.
GEO. H. MARSH, Pomona, Cal.

THE EMERSON DISC PLOW

Superior to All Others

This plow is better constructed and has more adjustments and is adapted to a greater variety of soils than any other disc plow.
Has steel beams, adjustments are simple, is ball bearing, and will turn square to right or left.
Descriptive matter mailed on application.

NEWELL MATHEWS CO.
200 N. Los Angeles St.
Los Angeles Cal.



NO, NOR COPYRIGHTED.

Editor Cal. Cultivator:—Enclosed find one dollar for renewal of my subscription to the California Cultivator. This is one Cultivator that thoroughly cultivates the field for which it was designed, gives entire satisfaction and is not patented. Yours truly.—L. Martinelli.

The above is only a sample of letters in our daily mail from Northern California, from Central California and from Southern California. The growth of the Cultivator is continued by just such appreciation as is here expressed. That feeling of confidence in the Cultivator is an important factor to advertisers. That is why we get such letters as this:

San Dimas Citrus Nurseries, growers of true to name citrus trees exclusively.

SAN DIMAS, Cal., Oct. 26, '03.

Cultivator Pub. Co., Los Angeles, Cal.:—We beg to call your attention to the fact that the Cultivator has always given us the best of service. We have used it many years, and for the last two or three especially it has given us better results than any other of our advertising mediums. Whenever we wish to dispose of anything in our line, we can always find purchasers by using your columns. Wishing you the best of success, we remain, yours very truly.—San Dimas Nurseries, R. M. Teague, Prop.

* * *

Besides, that is why we have to purchase almost a ton of white paper each week on which to print the edition of Cultivators. Fact, for it now requires something over 1500 pounds of white paper. Piled in single thickness paper before folding, it is almost as high as a man stands. After wrapping and addressing on Friday mornings the eighteen to twenty large mail sacks make a good two-horse dray load.

* * *

Yes, the Cultivator do grow. The pleased expressions of advertisers prove that they are abundantly satisfied. The advertising columns are something of a proof, also, for you will note the recent increase from sixteen to twenty-four pages has been largely taken up by advertisers. There is more than twice the advertising in our columns than a year since.

Why?

Well, business men invest money to make money.

* * *

There's R. W. Pierce Furniture Co., of Los Angeles. They realize that farmers wish something besides plows, cultivators and appliances for outside work, that is, some things for convenience and beauty of the home. California people believe in comfortable homes. The house which realizes that and invites attention to its goods is wise.

* * *

WIRE FENCE

The West Coast Wire & Iron Works of San Francisco are issuing illustrated catalogues of the woven wire fence, barb wire fencing, elevator cases railings, and nearly all kinds of wire goods. Any one having use for wire or iron goods will do well to get in touch with the West Coast people and ask for these catalogues. In one little pamphlet entitled "Fence Sense" we note:

"In our fence you get a straight upright and bar wire, not weakened by any crimp, warp or kink, and has not lost any of its life by being twisted before it gets into the fence, thus giving full tensil strength to both upright and bar wire. It is coil spring woven, change of weather does not effect it, and the tighter you stretch it the more the clamp binds and the stronger your fence becomes.

The United States is experimenting in the matter of raising new fruits, vegetables and grains in the Philippines. Beans, asparagus, beets, cabbage, sweet corn, cauliflower, celery, egg-plant, tomatoes, peppers, radishes, rhubarb did well, but pumpkins, cucumbers and melons failed. Cotton promises well. It is also believed that coffee and tobacco can be successfully grown.

C. H. SESSIONS, ASSOCIATE EDITOR

BOGUS BUTTER.

A Washington, D. C., correspondent writes a comment to Country Gentleman of interest as follows:

One of this city's daily papers has recently received an anonymous communication which relates to a subject of considerable interest to your readers. This letter, purporting to be from a "workman," contains the following:

"When the recent attempts of Secretary of the Treasury Shaw, to reduce the surplus accumulations in the United States Treasury are considered in connection with the tax of 10c per pound on oleomargarine, imposed by the present administration, it would seem that the Republican government has done a very unwise thing, to say the least, to tax the workingman's butter on his bread, in order to pile up a surplus that threatens a financial panic. If the tax is not imposed for revenue, the bill is in itself a fraud, for it claims to be a revenue bill, which is the only basis on which it can stand. No other country on the globe taxes oleomargarine or butter, and a necessity for such taxes in a free country is not clear to any thinking mind."

The editor's comment on the above expresses some doubt as to its being the production of a 'workman.' Indeed, suspicion strongly points to the writer as being an agent of the oleomargarine interest, because of the reference to the oleo law as a revenue producing measure. That was the Shibboleth of the oleo fighters in Congress in the attacks on the bill, and it has formed the basis of legal contentions aimed against its administration. The fact is that most laws which seek to correct evils or to achieve general results, through the imposition of taxes, are framed as revenue measures and are so treated in the formal course of their enactment.

This law was enacted, and is now enacted, as far as possible, for the purpose of putting a stop to certain frauds on the pockets of the people. Oleomargarine was sold as butter and at butter prices in enormous quantities. The producers and retailers were reaping an exorbitant, dishonest profit. It was found that the only way to prevent this peculiarly offensive form of fraud was to impose a differential tax on artificial butter, one tax of 10 cents a pound on all such products colored to imitate butter, and an insignificant tax of a fraction of one cent a pound on uncolored oleomargarine. Thus it was sought to permit those who wished the cheap form of artificial butter to secure it at the former cheap rate, while those who wished it colored to resemble butter could buy at a higher rate, but one which was still somewhat lower than the price of genuine butter.

The incentive to defraud the customer, which under previous conditions proved so tempting, was removed. The act was clearly not designed as a producer of revenue, for if all oleomargarine were marketed uncolored, the revenue would be less than sufficient to meet the cost of enforcement. The workingman who demands a cheap butter imitation can obtain it today just as surely as he could before the passage of this law. And if he has compunctions against putting it uncolored on his table, he can cheaply provide himself with a coloring agent. Furthermore, this statute is not a partisan product. At no time did party politics enter into this case. The law was passed, upon the non-partisan demand of the dairymen of the country and to meet the needs of the general buying public regordless of party.

It is learned from an official in the Internal Revenue Bureau that the Commissioner, after a full hearing, having decided that the corporation of which Wm. J. Moxley is the head, did and does use artificial coloring matter in their manufacture of oleomargarine; that the corporation has started suit in the United States circuit court at Chicago to recover $35,000, which it was compelled to pay as a penalty for alleged violation of the law. While this is known as an action in assumpsit and will probably be tried before a jury, there are important law questions in the suit which will be argued before the judge, thus giving the court the opportunity to review the argument made before the department some months ago, that palm oil was the principal ingredient used by the Moxley corporation in coloring the oleomargarine, and that such coloring matter did not constitute artificial coloring.

CALIFORNIA LIVE STOCK BREEDERS' ASSOCIATION.

The California Live Stock Breeders' Association was organized during the State Fair at Sacramento, September 7, 1903, and was effected as a result of two meetings well attended by breeders from many parts of the state unanimous in the sentiment that the need of such an association is imperative in the interests of the live-stock industry.

Secretary Chisholm is sending out invitations to stock breeders to become members, which shall meet with hearty response from all stock farmers. Mr. Chisholm has sent to this office copies of blank applications, list of members and statement of advantages of such an organization. These may be had by applying at the Cultivator office or to the Secretary N. A. Chisholm, Jacinto, Cal.

Every stock breeder in the state get in touch with this movement.

FARMERS ON DAIRY TOPICS.

To get a fine grain the cream should be churned at as low a temperature as is consistent with a complete separation and the churn stopped while the butter is in small granules. Overchurning, overworking, improper methods of salting, working at too high or too low a temperature, are largely responsible for poor-grained butter.—William D. Baker.

I have produced milk for 25 years and have fed nothing that gives so good returns for the money value invested, all things considered, as well-cured, early-cut hay, used in conjunction with the by-products of flour mills, starch and gluten factories and cottonseed meal.—John H. Harmon.

If one is making butter he should raise his own cows, as he has the milk to start the calf on.—Irving J. Gay.

We believe that the best method of improving our dairy herds is to weed our the poor cows by the use of the scales and Babcock test, and breed only the good ones to the best possible sires of the same breed which can be obtained.—E. E. Light, Knox county, Maine.

In this section dairying is the chief industry, farmers having private dairies and delivering the product to customers weekly. This makes a good market for eggs and vegetables.—Alfred R. Smith.

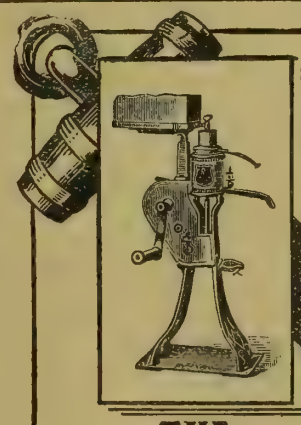
I should feed from 30 to 40 pounds of silage, 5 to 8 pounds of hay mentioned, and 4 pounds of cottonseed meal and shorts, equal parts, at two feeds.—R. W. Ellis, American Cultivator.

CREAMERY SUPPLIES

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
Butter Moulds — Wrappers
Engines & Boilers — Milk Coolers
Apiary Supplies
Creamery and Dairy Supplies and Machinery of all Styles and Sizes

Send List of Goods Wanted and we will Quote Prices

G. G. WICKSON & CO.
123 N. Main St., Los Angeles, Cal.
SAN FRANCISCO PORTLAND



AN ANCHOR OF SAFETY TO DAIRYMEN

THE U. S. CREAM SEPARATOR

Buy the U. S. Separator and find it an anchor that will keep you from drifting onto the rocks of discouragement and loss. Nothing like it to make Money and save Labor.

THE U. S. SKIMS CLEANEST AND WEARS LONGEST

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Write for illustrated catalogues.

Vermont Farm Machine Co., Bellows Falls, Vt.
328 A

Hand Separators

There are still many farmers who for some reason or other, are unwilling to invest in a cream separator, apparently preferring the old way of handling their dairy products to the more modern methods now in use, says the Editor of Farmers' Tribune. The old way of setting milk and skimming by hand leaves at least .5 of one per cent of the butter fat in the milk; this is practically a total loss, because butter fat is not worth anything like 20 cents per pound for hogs or calf feed. From a cow that produces, say 250 pounds of butter per year, or its equivalent in butter fat, which would be about 300 pounds per year, we would lose, by the old method of skimming, about 37 pounds of butter fat annually. This 37 pounds of butter fat at 20 cents per pound, would amount to $7.40 per year. A farmer milking fifteen cows would, therefore, lose about $101.00 worth of butter fat every year. If he milks 20 cows, there would be a loss of $148.00 a year, or enough to buy a hand separator and still have a handsome profit left at the end of the first season.

It is generally considered that it pays to own a separator for a herd of ten average cows. The figures we have based our calculation on apply to cows about the average in butter producing qualities.

During the last twenty years, however, the manufacture of cream separators has grown to enormous proportions, which is perhaps, more conclusive evidence of the merits of these machines than any figures of profits or losses would likely prove to be to those farmers who are slow to take hold of modern methods of handling their products.

The farmer is very conservative, and it is generally necessary for him to see some one take the lead in the neighborhood before he is ready to take hold of any new departure from his old established way of doing his work. More of our farmers ought to read agricultural periodicals and keep up with the progress of the times. Why should not every farmer take two or three papers to inform himself on his particular line of work? There are especial dairy papers, special horse papers, special agricultural journals, particularly adapted to his own local conditions, that he should constantly read and keep in touch with. The farmer needs special information, just as well as the lawyer or doctor or other specialists do.

There are a number of advantages that accrue to the farmer from the use of separators. First, if he sells his milk to the creamery, it costs less to haul the cream than it does to haul the whole milk. Second, if he skims in the old way and makes butter on the farm, he not only loses a large amount of butter fat per year as indicated above, but most of the time he has only sour milk as a by-product, whereas if he separates the cream, he has good sweet skim milk, a most excellent food for his calves and other farm stock. Third, butter of better quality can be made from separator cream than from cream raised in the old way, for the reason that it can be ripened more uniformly. Fourth, the labor of caring for the milk is an item of no small importance for the farmer's wife. With the separator, this is greatly reduced and the drudgery of the good wife thereby largely decreased.

In regard to the kind of a separator to buy, it may be said that all of the leading machines are good. They all skim so close that there is only a trace of fat left. The main points to be looked after is to see that the machine is well made in a workmanlike manner and that it is simple, easy to operate and to clean.

The thing for the farmer to do is to write to the different advertisers and notice what each company has to say about their machines, and then decide for himself on the particular make to purchase.

Each make, of course, claims advantages over other machines. Some claim that their machines can be more easily cleaned than other makes, and again others claim that the milk can be poured into the vats or can with less labor, and still others that their machines have fewer parts, and therefore less to get out of order.

With the aid of such well illustrated catalogues as are issued today, however, any intelligent farmer can weigh those points at his leisure and readily come to a conclusion satisfactory to himself, just as he does when purchasing a self-binder or any other important farm machine.

DAIRYMEN OF CALIFORNIA.

The California Promotion Committee and the California Creamery Operators' Association are planning for a representative exhibit of dairy products at the World's Fair and also expect to capture for California the National Buttermakers' Association Convention—to be attended by from 6000 to 10,000 delegates—in 1905. In order to secure this convention there should be a good exhibit at St. Louis and a strong representation of California dairymen during the convention of the Buttermakers which meets on the Exposition grounds in October, 1904, and which will then determine where the convention will be he'd in the succeeding year. California wants this convention. The importance of her dairy interests—dairy products in this State amounting to more than $18,000,000 annually—demand a wide recognition. The Buttermakers' convention, if held in California, will be the largest and most important agricultural convention ever held west of the Rockies. It will be valuable to our own dairymen in placing them in closer touch with the East, and the buttermakers of the East will learn of the great and increasing importance of dairying in California. This committee desires the co-operation of all dairymen in the State. It is hoped that a strong representation of California dairymen may be made in St. Louis and that the dairymen of California may meet the delegates to the National Buttermakers' Association at the St. Louis convention and impress upon them the desirability of California for 1905. If the number of those desiring to go to St. Louis is sufficient it will be profitable to engage a special train to take the California dairymen to the Exhibition City, so that a campaign may be the more successfully waged for the convention. All those who are interested are requested to at once communicate with Chas. H. Saylor, Secretary of the California Creamery Operators' Association, 114 Drumm St., San Francisco.

POTATOES TOO HIGH. BEANS NOT DESIRABLE.

Editor Cultivator: Will you kindly through the Cultivator answer the following questions: Will it pay to feed raw potatoes to growing or fattening hogs? Are beans in a raw state a profitable food for hogs? Is it advisable to carry March pigs over the winter? As the best breeds can be made to weigh 300 lbs. in nine months, is not that the better policy? Answers to these questions will much oblige.—H. D.

I think the price of potatoes too high to make them a profitable feed for hogs. Hogs do not seem to take readily to raw beans. Once I tried to feed them, but they would only eat them when cooked and then ate them sparingly. The highest price is usually paid for hogs weighing under 300 lbs., and if the required weight can be obtained in nine months I would not think of keeping them 12 to 15 months. It is claimed it costs more to produce the third hundred pounds than the second. Chicago prices are in favor of light weight.—C. H. Sessions.

DAIRY DON'TS.

Don't turn the cows out in the cold autumn rains and storms.

Don't scrimp the feed when the cows leave the pasture.

Don't curry and brush the cows with the milking stool.

Don't keep a cow that is not earning her feed.

Don't breed to a scrub sire.

Don't milk with wet hands.

Don't allow the milk to stand in the stable.

Don't mix water with milk to raise the cream.

Don't guess the temperature of the cream by sticking the finger in it. (A thermometer costs 25 cents.)

Don't salt butter by guess; weigh or measure it.

Don't use cheap, coarse salt, only fine dairy salt is fit.

Don't touch the butter with the hands.

Don't think rinsing will keep cans and dairy utensils clean; add boiling water, washing powder, muscle and sunshine.—L. W. Lighty, in National Stockman.

STARTING A BALKY HORSE.

For the benefit of those who have been caused a great deal of anxiety by a balky horse, lost trains as well as tempers, and even sometimes ruined the horse, says a correspondent in the Horseshoers' Journal, I will give your readers a remedy which no matter how bad he is, will start such a horse 99 times out of 100. Of course it may fail one time in a hundred. When a horse balks, no matter how badly he sulks or how ugly he is, do not beat him; don't throw sand in his ears; don't use rope on his forelegs or even burn straw under him. Quietly go and pat him on the head a moment; take a hammer or even pick up a stone in the street; tell the driver to sit still, take the lines, hold them quietly, while you lift up either front foot; give each nail a light tap and a good smart tap on the frog; drop the foot quickly and then chirp to him to go. In 99 cases out of 100 the horse will go right on about his business, but the driver must keep his lines taut and not pull or jerk him back. If I have tried this once I have tried it 500 times, and every time I have suggested it people have laughed and even bet $5 and bottles of wine that I could not do it. So far I have won every bet. This may make you smile, but a horse has more common sense than most people are willing to give him credit for. The secret of this little trick is simply diversion. I am a firm believer that with kindness and proper treatment a horse can be driven with a string.

The Continental Creamery Company of Topeka, Kansas, will enter the creamery business of California. This is the decision that its representative, Mr. A. Jensen, has arrived at after having spent some time in Humboldt county looking over the field.

If carried out, the plans are to build the best creamery plant in the United States at Ferndale with a capacity of 30,000 pounds of butter daily, equipped with every facility for making butter and storing it.—Produce Review.

The calf should have the milk in small portions, and as often as the cows are milked, as only then we get the full benefit of the milk.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.
C. W. LEFFINGWELL, JR., Sec'y.,
Whittier, Cal'if.

Sultane's Golden Fern, 65304
[IMPORTED]
SERVICE BULL FEE REASONABLE
A. B WHITE, - 2547 W. 12th St, Los Angeles

Ramona Herd
REGISTERED JERSEY CATTLE
Geo. W. Thomas Riverside, Cal.

FOR SALE
Registered Berkshire Boar thirteen months old. Price $20.00.
W. Jay Cole, Anaheim, Orange Co., Cal.

MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

G. I. Lytle
HIGH GRADE, STANDARD BRED JERSEYS
2006 S. GRAND AVE., LOS ANGELES

Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
GEO. Y. COUTTS Orange, Cal.

LEMONITA HERD
Leffingwell Rancho, Whittier, Cal.
—HOME OF SARGENT FOX, 64833—
FOR SALE—DART OF LYNWOOD, 66545, registered Berkshire boar, eighteen months old, by Kingstone's Duke of Biltmore, out of Silver Light XXV. Price reasonable; new blood.

Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
E. E. MOORE, Compton, Cal.

Jersey Bull For Sale.
Marygold Brown Donald, 56030, four years old, full brother to B. B. Marygold, sweepstakes bull. Price reasonable. Also would like to buy good Jersey bull calf, registered or eligible.
N. S. Southmayd Gardena, Cal.

Venadera Herd
FOR $60
A handsome golden fawn yearling son of SIGNORA BRUCE NO, 154547
Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address
GUY H. MILLER, Riverside, Cal.

FOR SALE
SIX YOUNG REGISTERED JERSEY COWS,
Mostly St. Lamberts; St. Lambert bull, 2 years old; 4 grade Jerseys. All good milkers. Three heifers registered. Team of good horses and wagon. A good milk route, milk, wagon, aerator, separator and bottles. Also ranch of five acres, first class location. Large new barns and corrals. Everything new and up-to-date. Will sell separately or as a whole.
C. H. Williams, Monrovia, Cal.

Jersey Mead Stock Farm
HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT Station B, Los Angeles

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
SAN BERNARDINO, CAL.

JERSEY BULLS OF ALL AGES
FOR SALE
Melia Ann and Golden Lad blood in lead. Write or come and see.
LEWIS BRADBURY DUARTE, CALIF.

The Churn

The Indiana Experiment Station in Bulletin No. 96 discusses in a practical way the kind, care, operation, temperature, etc., of churns. It says:

The kind of churn which has no inside fixture, but dashes the cream from one side or end to the other by the motion of the churn, has proved most satisfactory.

The paddles, dashers, etc., of whatever pattern, are apt to hurt more or less the texture of the butter, and also cause a loss of butter in the cream, which adheres to them and to the corners of the churn, especially when the cream is a little thick.

When the churning is done in such a short time as is claimed by admirers of many so-called improved churns, it is usually at a sacrifice of butter-fat left in the buttermilk, even though it may not be apparent to the eye.

Wooden churns are to be preferred to metal; because of their getting loose in dry weather if not used frequently or properly taken care of, a steel barrel-churn, tinned inside and painted outside, has been put on the market. The objections to it are that the cream warms up more easily when the room is warm, and more butter will adhere to it than to the wood. Care must be exercised to wipe it dry or it will rust. On the other hand, the cream might be kept in it until enough is secured for a churning, making one less vessel to care for.

The size of the churn should be such that it will never be filled over half full, and better if only one-third full. Where the ordinary churning amounts to from two to five gallons of cream, a fifteen-gallon churn is a desirable size.

The speed of a barrel or box churn which revolves should be sufficient to carry the cream to the highest point, allowing it to fall the length of the churn. If it is turned too fast, the cream will remain in the ends; if too slow, it will slip around and churn slowly. The agitation which results from concussion is more desirable than that from friction.

The time required for churning depends on the ripeness of the cream, the temperature, the fullnes of the churn, and amount of agitation and the richness of the cream, and to a lesser extent to a period of lactation and feed. Quick churning usually means large loss of butter in the buttermilk. Under ordinary conditions from twenty to forty minutes is a reasonable length of time for churning, and no objection to an hour if firm butter and thorough work are desired, especially if the churning is done with other than hand-power.

The only rule in regard to temperature which can be given is to "churn at as low a temperature as possible, and have the butter come in a reasonable time." A high temperature makes quick churning, large loss of butter in the buttermilk and soft butter; a low temperature requires a longer time, makes a firmer butter and reduces the loss in the buttermilk. While most cream can be satisfactorily churned in from twenty to forty minutes at some temperature between fifty and sixty degrees Fahrenheit, some unusual condition may require a little higher temperature or longer time. In the experiment station dairy from fifty-four degrees to fifty-six degrees is the usual churning temperatures. When gluten meal or feed is fed, the churning temperature may be lowered from two to four degrees, while if much cotten-seed meal is fed, it may be raised a little if the butter is slow in coming.

The variations in the churnability of cream from different cows and herds, from the same cows at different seasons of the year, and varying stages of lactation, require some variation in the churning temperature. Use a thermometer; then if the butter comes quick and soft, lower the temperature of the cream next time. It is very desirable that the cream be held at the churning temperature for at least two hours previous to churning.

MILK FEVER IN COWS

Professor J. C. Robert, Mississippi: Parturient paralysis, parturient apoplexy or "milk fever" is the name applied to the disease peculiar to cows seen at or about the time of calving. The disease is one especially to be dreaded, because it occurs only in deep milkers at the prime of life, and has usually resulted in death. The name "milk fever" is misleading, since there is no fever when the disease is uncomplicated, but frequently a subnormal temperature.

Cause.—The pathology of this disease is not well understood. Many theories concerning its production have been advanced, the latest and most rational of which is that given by a Danish veterinarian, J. Schmidt, which is as follows: That the disease is due to a poison generated in the udder and absorbed by the system. The sudden increased flow of milk incident to birth of the calf results in casting into the milk channels great quantities of glanular cells. These decompose, form poisons, are absorbed into the circulation, permeate the tissues and produce auto-intoxication. The tonic effect of this poison is especially manifested by the nervous system, resulting in paralysis, hence the name parturient (at the time of birth) paralysis.

Symptoms—These usually occur from a few hours to three or four days after birth of the calf (in rare cases a few weeks after calving), and, as a rule follow an easy and rapid delivery. The symptoms are mainly those of nervous disturbance. At the onset of the disease the cow becomes excited, she moves around the lot or pasture as if in pain; may lie down and then get up immediately, turn head to side, and kick at flanks; groans, and grinds her teath. Later, she loses control of her muscular power as seen in dragging the hind legs, staggers, lies down and rises with great difficulty, finally becomes so paralyzed that she cannot rise at all. When down she usually rests upon her chest with head turned to the side of flank, but she may stretch her head out straight.

The bowels and urinary bladder are more or less paralyzed, resulting in a torpid condition of intestine and retention of urine. Later, loss of reflex motion occurs, so that the eyeball may be touched with the finger and she may not close the lid. The pharynx and gullet are unable to take food to the stomach, so that an effort to drench the cow is apt to result in death by the liquid entering the lungs and producing broncho-pneumonia from irritation of the bronchial tubes, or possibly producing immediate suffocation and death. As the stomach and intestines are paralyzed, the food may ferment and cause the animal to become bloated. The pulse is rapid and weak (60 to 120 per minute), respiration labored, and temperature about normal (100.5 to 102 degrees Fahrenheit). In some cases the temperature is subnormal.

Treatment—Preventive: Since parturient apoplexy is common only in deep milkers at time of calving, preventive measures consist in diminishing the activity of the udder at that time. This is best accomplished by reducing feed, providing exercise and keeping the bowels open. Milking before calving is also probably beneficial. When a cow is attacked by this disease drugs are not likely to be of any use. "Schmidt's treatment" is the most successful, and consists in thoroughly cleaning the udder with soap and water, and infuse into each teat a solution of iodide of potash. The object of this is to neutralize the poisons. The dose is from two to three drams of iodide of potash dissolved in a quart of boiled or distilled water. The orifices of the teats should be first cleansed with some strong antiseptic. For introducing the iodide solution some apparatus equivalent to a common fountain syringe is necessary. If necessary this treatment may be renewed after eight or ten hours. But, while the treatment is simple enough, a veterinary surgeon should be called whenever symptoms of the disease are plainly manifest.

Next year the National Buttermakers' convention will be held in St. Louis. Heretofore 5000 to 6000 delegates have attended. The California Promotion Committee has in view the running of a special California train carrying butter makers to that convention, who will be expected to secure the National Convention to be held in this state in 1905.

The telephone is becoming an important factor in the business life of the farmer. It is generally going in on the farms of eastern progressive agriculturalists, and is both economical and convenient.

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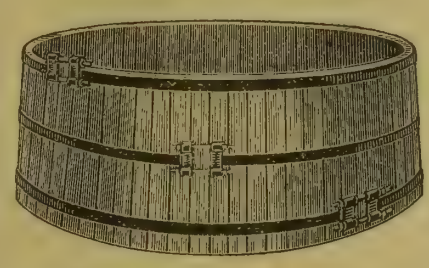

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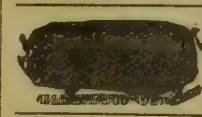

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

SUCCESS IN THE SHOW ROOM.

As a general proposition a true chicken fancier is born, not educated. He or she should so love the work of caring for chickens and preparing them for exhibition that the work incidental thereto will seem rather recreation than toil. The usual method pursued by fanciers in preparing their birds for exhibition is to separate in the fall, say October, the cockrels from the pullets, placing each in clean, warm yards, where no direct sunshine is felt. Care must be taken not to crowd the cockrels or pullets as to do so impairs their powers of growth and development. About two months before show time the fancier should go over his birds with a view of selecting the best ones for exhibition. Weigh each bird, place in a separate coop and attach a card with the weight, so as to keep a record of the gain of each fowl. Feed should be given in different quantities as the time for exhibition approaches. Hard boiled eggs, a tablespoonful of sugar to each fowl, once a day, will add weight to each bird, but should not be used as a diet more than five or six weeks. Among the last things to be done, say, ten days or two weeks before show day, go over the birds carefully, noticing that no feathers are broken; if there are they should be pullel out. From this time until exhibition handle the birds daily, groom them thoroughly, wipe with a cloth and stroke with the hand until the birds manifest a liking for the treatment, which they will do after a time. When the birds become familiar with this treatment, that is, so tame as to permit handling, select the specimens of cocks and pullets desired to bring highest awards and begin the practice of posing. It will surprise one how readily cockrels will adapt themselves to position. When once they learn to pose in the presence of one or more persons they will take that attitude when confronted by a number and remain proud and dignified for some minutes at a time.

Do not abuse the birds in training them. Do not handle them roughly, else they will become timid and never learn the art of posing. Stroke gently with one hand under the throat while you rub the legs and body gently. If the bird you are training shows impatience take it in your hands, stand it on your knee for a few moments, talking in a low voice the meantime to secure the confidence of the bird. Don't under any circumstances lose your temper when training. If you do you will fail of any results. Kindness is as much a necessity in dealing with fowls as with stock, and the finer bred the bird the more sensitive it is and the greater care must be exercised in handling it. Two week's training as to position, will be enough if daily practice has been given two or three times each day. At the last, rub carefully with a soft cloth to brighten the feathers and attend strictly to feeding and watering and sanitary conditions.

Be sure to follow these suggestions as to training:

Keep the coops clean.

Feed and water regularly.

Handle carefully.

Always assume the same position when training.

Always use the same tone of voice.

Never grow angry.

Train often, but not too long at a time.

THE GREAT SAN FRANCISCO SHOW.

Preparations are being made toward holding in San Francisco the first week in December the greatest poultry and pet stock exhibition ever attempted in the West. The various poultry associations of the state are combining to make the poultry display the grandest of anything ever seen on the coast. This department is under the management of the Oakland Poultry Association, and premium lists may be had by writing the secretary, J. C. Williams, 33 Market street, San Francisco. Already entries have been received from all sections of the West, as well as from Eastern breeders, and it is predicted that there will be a battle royal.

This exhibition will be held in the Mechanics' Pavilion, situated in the very heart of the city of San Francisco, the finest auditorium on the Coast for the purpose. It is expected that there will be no less than 2000 entries in the poultry department, 1000 pigeons, and hundreds of dogs and cats; in fact by all the various clubs and associations combining this will be a gigantic exhibition. It will be a rare opportunity for breeders to exhibit their poultry, as well as for fanciers interested in the other departments to exhibit and visit the show.

ANSWERS TO QUESTIONS.

My husband and I are much interested in your Cultivator articles, and would like your advice. Others situated in similar surroundings might also profit, so please answer in the paper.

We have a cosy home in the city. The back of the lot is utilized for chickens, of which we have about ninety-five kept in six flocks. Their pens are cleaned daily for three reasons. First, we do not wish to be a nuisance to the community. Second, we have some regard for our own pleasure. Third, we intend the fowls shall keep healthy. Now, with this limited space, do you think we would be wise to sell a part of the hens and stock one yard with Indian Runner ducks? Our hens give a profit of about one dollar each for every year, but we do not now have pure-breds.—Mrs. W. W., Los Angeles.

It is very difficult to advise any one. For my part I should keep only chickens, try to improve the breed, and make my hens pay a larger profit. This you can do by having hens that will lay more eggs. My reason for advising against Indian Runner or any kind of ducks to be kept in a small back yard is that they require more care in keeping the premises clean than chickens, they spill the food more and foul the water, also they easily frighten at night. Otherwise the Indian Runners lay an immense number of eggs. In fact you can count on two dozen eggs apiece every month from now to July or August, they are never sick, never have roup or lice, or mites, after they get feathers, for the feathers are too oily and grow too closely together to permit the lice to live. The Indian Runners are very easy to raise, eat much less than Pekings and are a delicious table fowl. Their eggs taste like hen's eggs, they are not coarse like other duck eggs.

* * *

Editor Cultivator:—Will you kindly have the madam who gave us that good lecture on poultry inform us through your valuable journal the cause of Indian Runner ducks laying small eggs without yolks, and prevention if there is any. My stock came from Miss ——, who got hers direct from the White Plume ranch, therefore should be of the best. I would also like to know what the importer of the Indian Runners thinks of the following for a good balanced ration for the ducks. A 5-lb lard pail of wheat bran, same of rolled barley, same of corn meal, same of fine cut green alfalfa, 2 handsful fine ground bone and one handful of meat meal. And sometimes a small quantity of Egyptian corn. If any improvement can be made on the above ration to get best results, would be thankful for the information. Will the ducks lay as well when a flock of twenty or thirty are allowed to run together with several drakes, or should they be kept in smaller numbers and on different ranges.—W. S. M., Upland.

I have never known of Indian ducks laying eggs without yolks, except once, the first egg laid by a young duck. If they continue to do so, give them more green alfalfa and a little cracked corn as an extra feed at noon. The ration you mention could not be improved upon, be sure however to add five per cent of coarse sand to it. Have not more than four drakes with twenty or thirty Indian Runner ducks. Thirty is not too large a flock.

* * *

Editor Cultivator—Please answer the following questions in the Cultivator. Is raw or cooked barley good for laying hens? Is it good to fatten briolers? Are tomatoes good for laying hens? Is shake houses good for hens as whole boards, provided cost is the same? A reader of your paper. H. C. B.

Rolled barley is good for hens, it is good either cooked or raw, if cooked be sure you do not let it get sour. Barley meal or ground barley mixed with bran and corn meal is very good for fattening broilers. Tomatoes will not hurt laying hens if given once a day. Whole boards are better than shakes because they will not crack and split so easily, but whole boards must be tongue and grooved or else carefully battened to be sure there are not cracks and draughts.

* * *

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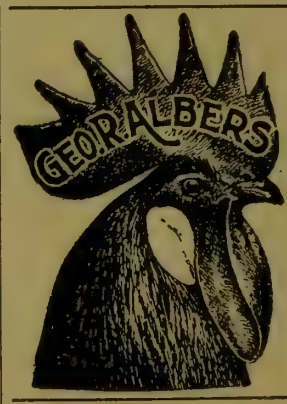

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anced feeds. As I have explained before a balanced feed is one in which either the elements of eggs, or feathers, bone, muscle, or flesh are contained. Now in California, or at any rate in this part, during certain seasons of the year there is a great lack of certain elements principally green food and animal or insect food. To make a success in poultry keeping these missing elements must be supplied, and this is what the Midland Feed Co. and Coulson propose to do, and I am glad to say they succeed. I have tried them both and can recommend them both. For some places the Midland food would suit better than Coulsons, for other places Coulsons would do fully as well. When I used them, the first effect was a sudden lowering of the egg yield; the hens did not like the change and would not eat either food until I had to starve them to it. When they got accustomed to it they ate it, but they did not seem to relish it for two months. Then the difference was seen, the moult came on and the Midland fed hens made a quicker moult than Coulsons, but the Coulsons laid better during the moult. I usually feed liberally of green cut bone, but I found I could not give even one spoonful to ten hens fed with the Midland without bringing on bowel trouble, showing that the Midland contained as much protein as the hens could possibly digest. With Coulsons I could, and did, feed green cut bone during the moult, showing that there is not quite so much protein in Coulsons; and that I could feed more liberally of it without danger of upsetting the digestive organs. Both Coulsons and the Midland are exceedingly valuable well balanced rations, and you will have to judge for yourself which suits your breed of fowls best and which suits your pocket best. With either food I would feed every day and liberally during the moult and every other day or about three times a week during the rest of the year. My reasons for this is that I think feeding those every day would keep the hens in a constant state of moulting. But only an experiment would prove this, it depends very much upon what the fowls pick up during the day and also the breed of fowl, the Mediterranean fowls require a narrower ration, that is more protein and can stand it better than almost all other breeds.

* * *

More About Roup.—Dear Madam, I have been very much interested in your talks on poultry and have got a good many pointers from them. I have had poultry to care for for about five years, but have never had any real trouble till a year ago. I over-crowded my young chickens and had roup. I had more success with camphorated oil than anything else, but there was one pullet about four months old that I gave up, so I concluded a little experimenting would not make any difference. When I was a child I was subject to sore throat, but I never had diphtheria. They used to blow dry sulphur down my throat, so I caught the little pullet, held her bill open and dropped a little sulphur on the patches that lined her throat. When I caught her she was so far gone that she gasped for breath. That was all I gave her, and in three days she was as well as ever, and is now one of my best layers. A few days ago I discovered one of my Black Minorca cockrels, aged seven months, having a hard time to get his breath, I caught him, gave him a dose of castor oil, and broke a piece of sulphur into his throat, put him into a coop by himself. Today he eats as well as he ever did and has no trouble to breathe. I hope you will try it if ever you have a case of roup or diphtheria again. Yours truly.—Mrs. Adelia A.

I am very glad to print this letter from Mrs. A., as it may be quite a useful suggestion to many. The very clever surgeon who gave me many a hint about doctoring poultry, said he used the following for human beings, and had found it equally efficacious with sore throats in poultry. One ounce sulphur, one ounce powdered alum and one ounce magnesia, mix and blow into the throat—will usually cure in one night. One thing you may remember, that the same medicines that are used successfully in the human family are as successful with fowls. The very best doctors will tell you this and I have proved it to my own satisfaction many times, but of course those who have patent poultry medicines for sale will assure you that fowls require entirely different remedies. Last year a banker in Los Angeles asked me what to do for his chickens, they seemed to have colds. "Have you any quinine?" I asked, he looked surprised but said "Yes." "Well, give them each a capsule of quinine night and morning for a few days, and a little red pepper in their food." Next week being in the bank again I inquired after the chickens. He smiled, "they are all well, but oh! you should have heard what fun my family made of me for giving the chickens quinine, but it cured them." Probably if I had said get Elsinore poultry tonic, or Sheridan's poultry cure, or some one else's panacea he would have forgotten, or neglected it and all his chickens would have died, but quinine was in the house and handy and he saved his fowls. I often give a liver pill, Carter's Little Liver Pills, besides quinine, asafoetida, sulphur and red pepper. Quick and decided action is the prime requisite. Blue stone in the water, a piece the size of a bean, is the best cure and preventative.

* * *

POULTRY SHOWS.

Next month the poultry shows in California commence and I would like to say a word about them. Poultry shows are the greatest educators for poultry breeders of every kind; seeing is believing, you will see why the winners win, you will understand more about the poultry business by visiting one good show than by all the reading you can do. Poultry shows are a great advertisement. Those that have good birds are sure to take plenty of orders, and many sales are made at the shows. Even if you have only a few birds you may have winners. A gentleman at Sacramento, Mr. Richardson, bought one setting of eggs last year of me, he raised nine, sent them to the Sacramento show and took two first prizes with them in hot competition, now if he had thought it is not worth while to show as I have so few birds, he would not have won. Another gentleman had one White Rock cockrel, put him under his arm took him to the show and won first at Los Angeles several years ago, so if you have only a few, show them, they may prove winners.

There are a great many premiums already promised not only for first prize winners, but for those even down in the sixth class, so come one and all show whatever you have and win something and learn something. The White Plymouth Rock Club gives three fine ribbons for members of the club exhibiting at San Francisco, at Los Angeles and at San Diego. Also a beautiful silver cup at San Francisco.

The dates of the shows are, San Francisco, December 1-5; Secretary J. C. Williams, 33 Market St., San Francisco.

The Los Angeles Show, Dec. 8-12. Secretary, H. W. Kruckeberg, 123 S. Los Angeles Street. The San Diego show, Jan. 6-19, Secretary, Harry McIntire, San Diego.

MOLTING HENS.

As it takes about 100 days for the hens to get a complete new coat of feathers, and that time is usually not completed until December, look out for their comfort all through the wet days of Fall, the cool evenings, the frosty mornings. They sit around and shiver at these times with much less covering than you think. You have been in the habit on the hot nights of leaving the coop doors open, and so many people keep up the habit until the first snow drives in. By this time, through your neglect, the thinly clad chickens, both hens and cockerels, may have taken cold, and a chicken once badly afflicted with cold is always a chicken to which something is happening in the way of disease. One bad cold always seems to stay close by the chicken's throat ready to break out again. So shut up the coop and poultry house doors very early in the chilly evenings, and keep them shut until the morning's worst chill is over, and provide warm places where the chickens may shelter on the rainy Fall days. Lack of care in this way, during molting time, loses one many a good-priced lot of chickens, besides weakening those left.

Young chickens will sometimes molt twice during the first 12 months of their lives and often show different markings in the second coat, and while the differenee may not be great, yet, in a standard-bred fowl, may disqualify it from the show pen. Sometimes the first feathers show the markings from a past ancestry, and these markings, if slight, may disappear completely in the second coat of feathers.

Turkey hens sometimes molt late, and their bodies will be almost naked in the cold days of Fall. Give her a warm shed and feed her all she wants to eat of good corn and other foods as nutritious. The idea of turning the chickens and turkeys off to look for their own rations at the very time this drain comes on the system!

Do not neglect your poultry yard and then expect satisfactory results from your chickens. Attend to the cleanliness of your fowls and their dirt and they will line your pockets with gold coins.

There is no business where clean money can be made faster than on a well conducted chicken ranch.

ROUP and CHOLERA

First know what is wrong with your fowls before giving medicine. Some would tell you that there is no cholera in this country. Try a package of Palmer's Cholera Remedy in all cases except Diphtheratic Roup, and you will find it effective.

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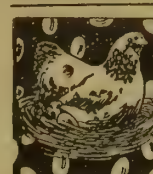

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Besides That, Lots of Roses, Climbing Vines, Palms, Etc., as Well as Deciduous Fruit Trees

There is always something attractive, even to a person unacquainted with botany, in a visit to houses where ornamental plants are grown. The nurserymen will insist on tacking on a list of names which makes the nursery catalogues most uninteresting to a person not conversant with these names. But a glass or lath house filled with flowering and foliage plants and palms certainly has an attractiveness which but few of us can resist, when opportunity comes to visit such a place.

SYCAMORE GROVE NURSERIES.

One of the most attractive houses of this kind which we have visited recently, belongs to J. J. E. Saint, proprietor of the Sycamore Grove Nurseries. These nurseries are situated in the Arroyo Seco, through which runs the main road from Los Angeles to Pasadena. The great sycamore trees in the background with the abrupt hillsides of the arroyo still further back, give a romantic setting to the beautiful plants before us.

IN THE GLASS HOUSE.

The yards are filled with large potted palms and thousands of shade trees, such as acacia melanoxylon or more familiarly known as the black acacia or, as called in Australia, Blackwood; also Sterculia diversifolia; the camphor tree; and as well, many varieties of the eucalyptus. The most attractive of these is probably the E. ficifolia or "Scarlet-flowering Gum." It may be in order to add that the good old-fashioned pepper tree is also in stock. This latter tree was once the favorite in Southern California, It afterwards seemed to have fallen into disfavor, but this year's demand for it is increasing so that possibly it may have a larger planting than for several years.

The E. globulous or "Blue Gum" which sometimes reaches the remarkable height of 350 feet, is the favorite in this state—that is, judged by numbers—of this Australian family. Of these Mr. Saint has thousands in boxes and many others in pots and cans. E. citridora or "Lemon-Scented Gum," is largely planted for a timber tree; also for garden ornamenting. The rostrata or "Red Gum" is much hardier than the "Blue Gum" and nearly as rapid in growth and much better for many purposes.

The acacias are perhaps worthy of more extended notice. For besides the Melanoxylon with its drouth resisting ability, its rapid growth, symmetrical pyrimidal head and necessity for almost no pruning which some say makes it the most suitable of all trees for street planting, there are other beautiful varieties of this most wonderful tree, also an Australian. One of them is a shrub or dense bush with bluish foliage and yellow blossoms. It is Acacia cultiformis and desirable for lawn planting. Acacia Malissima is beautiful for either garden or lawn. It has a feathery, fine foliage, its top a mass, at times, of magnificent yellow flowers. But as to flowers for decorating and a tree much used by florists to supply trade with flowers, the peer of all is the Acacia floribunda. It is not a large tree, but its beauty wins it many friends. The "Golden Wattle" or acacia pycnantha, is the largest leaved of all the acacias and an attractive tree, though it requires much pruning.

These trees, with Auricaria Grevillya, Umbrella, Japonicas, and numberless others, are the principal features of Mr. Saint's large nurseries. While he handles nearly everything that grows out of doors, yet in the matter of shade trees is where he specializes and shows his greatest success. Vast numbers are sold in comparatively small lots, but the wholesale business is also a large factor in the success of these nurseries These he has in all sizes from little plants in pots and boxes to trees from six to eight feet high in tubs and large pots. Any one wishing to give a new lawn or yard the appearance of having been occupied for some time, may secure these large trees of the Sycamore Grove Nurseries and accomplish that end very quickly.

With these shade trees are exhibited vast numbers of Phoenix canariensis or the ornamental date palm of the Canary Islands. This is one of the most popular palms in California and is most extensively planted in lawns and gardens.

It is more slender and graceful than the date palm of commerce which accounts for its more liberal planting. Notwithstanding this is the favorite, the common date palm which sometimes reaches the height of one hundred feet, is kept in stock. When it reaches greater age it is then much more ornamental than it is while young.

Inside the glass and lath houses are the less hardy plants, and especially ferns and tropical palms and hanging baskets. As may be seen by one of the cuts on this page, there is one house devoted almost entirely to hanging baskets and different varieties of ferns. Of course, one which predominates is the "Boston Fern," or technically Nephrolepis exaltata Bostoniensis. The wide fronds and graceful habit of this fern has made it the most popular and one of the best sellers the nurserymen have. It is used both in pots and baskets. The common hanging baskets are in stock in all sizes and of the more common Asparagus sprengeri to those made up of more rare plants a number of them are most beautifully arranged. Besides that, Mr. Saint takes orders to produce baskets of any size of plants which may be desired. In climbers and vines there are Jasmines, Bignonia Tacoma and Bougainvillea.

Back of the glass and lath houses containing the ornamentals, is the potting shed where busy hands take the little plants from the seed-beds and arrange them in the small pots, also where they are taken from the small pots and placed in the large ones.

FERNS AND HANGING BASKETS.

Near it the roses, climbers and bush, all colors and kinds—that is of the accepted best varieties for California.

The stock of deciduous fruit trees and grape vines while not a specialty, so much as the evergreen or ornamentals, yet in this Mr. Saint has a stock which will supply the planter with any varieties wished.

THE POTTING SHED WITH THOUSANDS OF POTTED SHADE TREES.

Mr. Saint is issuing a catalogue of the stock, also a wholesale list. These will give much more information than can be given in an article like this. They may be had by addressing Mr Saint at Pasadena street, Los Angeles.

Thrifty Strawberry Plants.

Acres of berries. Arizona Everbearing, Brandywine, Excelsior and other varieties of strawberries. That's not uncommon. But the uncommon feature of it is the uncommon thrifty appearance of the plants. Great dark leaves, and so large and strong growing as to attract instant attention.

Where? At Covina. Frank P. Baldosser's place. Other sections may be as favorable to strawberries. Other men may be as successful. But surely none can show better results than Mr. Baldosser does.

The photos on the first page of this issue give a faint idea of the beautiful appearance of these plants and the thorough tilth of the soil. The views were taken by the Cultivator photographer during an irrigation of one of the sections. The place, fifteen acres, is divided into three sections for purposes of irrigation, and on the lowest corner is a large alfalfa field on which all waste water is allowed to flow. From this it may be seen that there is no waste whatever on the water supply.

The water for the ranch is abundant and handy. It is on the corner of the place, in a pipe line, and Mr. Baldosser has extra water rights, which makes it possible for him to put in his gate and secure a head at a moment's notice.

After the irrigation the ground is thoroughly cultivated, the suckers pulled and all weeds carefully destroyed wherever they may have secured a foothold.

The plants are fourteen inches apart in the row and the rows are twenty-eight inches apart. This gives some thirteen or fourteen thousand plants to the acre.

As noted, the principal berry planted by Mr. Baldosser is the Arizona Everbearing. Of this variety he has over 100,000, or had some weeks ago. The early sales are already being made, so this large number may be already somewhat reduced.

The plants from which these came were all originally from the East, are all true to name and bear magnificent fruit. They are true to the name in this, that they are everbearing. Of course they have their seasons, yet the remarkable persistance of bearing is attractive from a financial standpoint.

One section of this place was planted last February and up to this time have paid for themselves, all labor on them and the water. That gives an idea of the worth of these plants and the manner of handling.

"O, well but he puts lots of expensive work and water on them. Sure he did. And every one else can do the same and succeed as Mr. Baldosser does. Work, intelligent work is necessary to success in berry growing as in other lines. But it brings its reward.

Mr. Baldosser offers plants for setting from this field. Berry planters will enjoy looking at them.

The grape fruit growers in Ventura are cutting out their trees because they say it does not pay to raise the fruit.

Unless all signs fail, Southern California will this year market the largest and best crop of citrus fruits in its history. It is too early in the season to forecast for a certainty what the extent of the crop will be. Present conditions, however, warrant the prediction that the crop will be from 25 to 50 per cent larger than it was last year, when 22,390 carloads were sent to market.

BY ERNEST BRAUNTON, GLENDALE, CAL.

IMPROVEMENT ASSOCIATIONS.

This department has many times been asked regarding literature concerning the formation and work of improvement asociations and would refer all interested persons to the secretary of the "National League of Improvement Associations," Springfield, Ohio. "The object of this organization is to bring into communication for acquaintance and mutual helpfulness all organizations interested in the promotion of out door art, public beauty, town, village and neighborhood improvement." This league issues bulletins and circulars concerning all lines of work noted in the above quoted clause, which tell in detail just how to organize and carry the work to a successful finish. Through them you can get in touch with the methods of every like association in the state or even in the United States.

* * *

ROSE CLASSES.

J. M. C., Redlands, asks: "What is the distinction between the classes of roses known as Hybrid Perpetuals and Teas?"

We pass, and in self defense ask: "How old is Ann?" The mixture of these two and many other classes has become so intricate as to render separation or classification well-nigh impossible. Crosses between these two were numerous many years ago and some of the offspring have been crossed back on one of the original parents or with a rose of some other class and the result by a Tea or Hybrid Perpetual until it is impossible to trace the parentage. Roses have been so mixed that the tea scent is a characteristic of many classes and it is hard to say just what are pure Teas. In our next issue we will endeavor to give the leading "earmarks" of the principal classes and the names of the most common roses in each class.

* * *

MAY THE WORM TURN.

The orange maggot was spoken of in the Cultivator last week in connection with Mr. Disbrow's trip to Mexico. This worm takes its name from the state of Morlos, south of the City of Mexico, from which the oranges come which are infected with the maggot.

Regarding the spelling "morales" which we gave, Mr. Braunton kindly corrects us as follows:

Editor Cultivator—Allow me to correct a very common error which appears on page 377 of the last Cultivator regarding the so-called "Morales worm."

Now, Morales is an old Mexican and California surname, and would make a good one for a worm, for we once had a noted robber by that name, but if you will glance at the map of Mexico, immediately below the city you will notice the little state of Morelos, from which the worm took its popular name.

Trusting that if "the worm will turn," it will be back toward Mexico, I remain, as B-4,

Truly Yours,
Braunton.

GOT WHAT WAS COMING TO HIM.

Some Philadelphians visited Richmond, Va., and asking as to the use of this and that large building, were told in every case that it was a tobacco factory. An aged negro gave them the information, and they, tiring of the monotony of the reply, pointed to a white frame building on a hill, and asked whose tobacco factory that was.

The old fellow replied, "Dat, suh, am no fact'ry. Dat am S'n John's 'Piscopal Church, where Marse Patrick Henry done git up an' ax de Lawd ter gib him liberty er gib him deaf."

"Well, uncle," asked one of the trio, "which did the Lord give him?"

"Pears ter me you must be strangers heahabouts," he answered, "else you'd all know dat in due time de Lawd gabe him bofe."—Detroit News-Tribune.

Prof. J. W. Mills of the Pomona Experimental Station has received notice that his duties have been very materially broadened and his field of work enlarged, says the Chino Champion:

"He has been given charge of all university experiment work in Southern California, including the Forestry Station at Santa Monica and the experiments being carried on at Redlands, on the Colorado desert and at other places. While his position is still subordinate to that of Prof. Steubenrauch, superintendent of stations, he relieves the latter of many of his duties. In turn he will be relieved of many of the routine duties of the station here, and will be called upon to travel about the country much more than heretofore. J. H. Barber, formerly foreman of the Forestry station at Santa Monica, and until recently foreman of the Foothill substation at Jackson has been appointed assistant foreman at the Chino Station, and will relieve Mr. Mills of much of the detail work there.

Mr. Mills has been for ten years foreman of the Chino station, and has become a recognized leading authority in California on agricultural and horticultural matters. He will receive the hearty congratulations of his many friends in his deserved promotion. The following tribute is paid to his ability by Prof. A. V. Stuebenrauch in the report of the University Experiment Stations just issued, when speaking of the Chino Station:

"'The officers of this station, especially the foreman, have greater responsibilities than is the case with any of the outlaying substations. The distance from th central station renders tne presence of a fully qualifed foreman at this substation doubly imperative. The foreman is compelled to maintain a rather extensive correspondance in order to answer the many inquiries that daily come to him. The present foreman, Mr. Mills, has succeeded in gaining the confidence of the farmers and fruit growers in the southern section of the State to an extent highly creditable to himself and to the university.'"

The growth of deciduous fruit shipments, from California, is commented upon by Lieut. Governor Anderson, who states that this year witnessed the largest exports in the history of the state. The future shipments he says will only be measured by the transportation facilities of the railroads.

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SWEET CIDER.

There are wines of ancient vintage,
Amber, white, and ruby red,
Whose bouquet is like the perfume
Of sweet incense, it is said;
But to me, the sprakling nectar
Of the Gods, cannot compare
With the cider, made from apples,
That our home-trees used to bear.
And no joy can ever equal
Mine, while stooping down to draw,
From the barrel's open bung-hole,
Fresh-made cider, through a straw.

—L. C. Bishop.

THE RICH PUMPKIN PIE.

"Ah! on Thanksgiving day, when from East and from West,
From North and from South come the pilgrim and guest.
When the gray-haired New Englander sees 'round his board
The old broken links of affection restored;
When the care wearied man seeks his mother once more,
And the worn matron smiles where the girl smiled before—
What moistens the lip and what brightens the eye?
What calls back the past like the rich pumpkin pie?"

JACK'S TWO DINNERS

A THANKSGIVING STORY.

Something very mysterious was going on in the Jarvis kitchen. The table was covered with all sorts of good things—eggs and butter and raisins and citron and spices; and Jessie, with her sleves rolled up and a white apron on, was bustling about, measuring and weighing an chopping and beating and mixing those various ingredients.

Moreover, though she was evidently working for dear life, her face was full of smiles; in fact, she seemed to have trouble to keep from laughing outright, while Betty, the cook, who was washing potatoes at the sink, fairly giggled with glee every few minutes, as if the sight of Miss Jessie working in the kitchen was the drollest sight in the world.

It was one of the pleasantest sights that big, sunny kitchen had seen for many a day, and the only thing that appeared mysterious about it was that the two workers acted strangely like conspirators. If they laughed—as they did on the slightest provocation—it was very soft and at once smothered. Jessie went often to the door leading into the hall, and listened; and if there came a knock on the floor, she snatched off her apron, hastily wiped her hands, rolled down her sleeves, asked Betty if there was any flour on her, and then hurried away into another part of the house trying to look cool and quiet, and as if she had not been doing anything.

On returning from one of these excursions, as she rolled up her sleeves again, she said:

"Betty, we must open the other window if it is cold; Mama thought she smelled roast turkey!"

Betty burst into a laugh which she smothered in her apron. Jessie covered her mouth and laughed too, but the window was opened to make a draught and carry out the delicious odors which, it must be confessed, did fill the kitchen so full that no wonder they crept through the cracks and the keyholes, and hung about Jessie's dress as she went through the hall in a way to make one's mouth water.

"What did ye tell her?" asked Betty as soon as she could speak.

"Oh, I told her I thought pot-pie smelled a good deal like turkey," said Jessie, and again both laughed. "Wasn't it lucky we had pot-pie today? I don't know what I should have said if we hadn't."

Well, it was not long after that when Jesie lined a baking dish with nice looking crust, filled it with tempting looking chicken legs and wings and breasts and backs and a bowlful of broth, laid a white blanket of crust over all, tucked it in snugly around the edge, cut some holes in the top and shoved it into the oven just after Betty drew out a dripping-pan in which reposed, in all the glory of rich brown skin, a beautiful turkey. Mrs. Jarvis couldn't have had any nose at all if she didn't smell that. It filled the kitchen full of nice smells, and Betty hurried it into the pantry, where the window was open, to cool.

Then Jessie returned to the spices and fruits she had been working over so long, and a few minutes later she poured a rich, dark mass into a tin pudding dish, tied the cover on tight and slipped it into a large kettle of boiling water on the stove.

"There!" she said, "I do hope that'll be good."

"I know it will," said Betty, confidently. "That's y'r ma's best receipt."

"Yes, but I never made it before," said Jessie, doubtfully.

"Oh, I know it'll be all right, 'n' I'll watch it close," said Betty; "'n' now you go 'n' sit with y'r ma. I want the table to git dinner."

"But I'm going to wash all these things," said Jessie.

"You go long! I'd ruther do that myself. 'Twon't take me no time, said Betty.

Jessie hesitated. "But you have enough to do, Betty."

"I tell you I want to do it," the girl insisted.

"Oh, I know!" said Jessie, "you like to help about it. Well, you may, and I'm much obliged to you besides." And after a last look at the fine turkey cooling his heels (if he had any) in the pantry, Jessie went into the other part of the house.

When dinner time arrived and Papa came from town, there duly appeared on the table the pot-pie before mentioned and various other things pleasant to eat, but nothing was seen of the turkey so carefully roasted nor of the chicken pie nor of the pudding that caused the young cook so much anxiety. Nothing was said about them, either, and it was not thanksgiving nor Christmas, though it was only a few days before the former.

It was certainly odd, and stranger things happened that night. In the first place, Jessie sat up in her room and wrote a letter; and then after her mother was in bed and everything still, she stole down the back stairs with a candle, quietly as though she was doing some mischief. Betty, who came down to help her, brought a box in from the woodshed; and the two plotters, very silently, with many listenings at the door to see if any one was stirring, packed the box full of good things.

In it the turkey, wrapped in a snowy napkin, found a bed, the chicken pie and the plum-pudding—beautiful looking as Betty said it would be—bore him company; and numerous small things, jam jars, fruits, etc., etc., filled the box to its very top. Then the cover, provided with screws so no hammering need be done, was fastened on.

"Now you go to bed, Miss Jessie," whispered Betty. "I'll wait."

"No, you must be tired," said Jessie. I'd just as lief."

"But I'd ruther," said Betty, shortly. "'n' I'm going to; it won't be long now."

So Jessie crept quietly up stairs and before long there was a low tap on the kitchen door. Betty opened it and there stood a man.

"Ready?" said he.

"Yes," answered Betty, "but don't speak loud, Mis' Jarvis has sharp ears, 'n' we don't want her disturbed. Here's the card to mark it by," and she produced a card from the table.

The man put it in his pocket, shouldered the box, and Betty shut the door.

Not one of those good things ever went into the Jarvis dining-room!

The next morning things went on just as usual in the house. The kitchen door was left open and Mrs. Jarvis was welcome to smell any of the appetizing odors that wafted out into her room. Jessie resumed her study, and especially her practice, for she hoped some day to become a great musician. She waited on her mother and took charge of the housekeeping, so much as was necessary with the well-tried servant at the head of the kitchen. And though she had but sixteen years over her bright brown head, she proved herself to be what in that little New England town was called "capable."

But the box of goodies! Let us see where it went.

* * *

It was Thanksgiving morning in a rough-looking little mining settlement in Colorado. In a shanty rougher and more comfortless than the rest were two persons. One, a man of thirty, was deeply engaged in cleaning and oiling a gun which lay in pieces about him, on the rough bench where he sat—the other, a youth of sixteen, was trying to make a fire burn in the primitive looking affair that did duty as a stove. Both wore coarse miners' suits, and picks and other things about the room told that their business was to dig for the yellow dust we are all so greedy to have.

Evidently luck had not been good, for the whole place appeared run down, and the two looked absolutely hungry.

It was thanksgiving morning, as I said, but no thankfulness shone in the two pale, thin faces. Both were sad, and the younger one almost hopeless.

"Jack," 'said the elder, pausing in his operations, "mind you give that old hen a good boil or we won't be able to eat it."

"It'll be better'n' nothing anyway, I suppose," said Jack gloomily.

"Not much. 'Specially if you don't get the taste of sage brush out of it. Lucky I happened to get that shot at her anyway," he went on; "I've seen worse dinners—even Thanksgiving dinners—than a sage hen."

"I haven't," said Jack shortly; for the mention of Thanksgiving had brought up before him with startling vividness the picture of a bright dining-room in a certain town far away, a table loaded with good things and surrounded by smiling faces, and the contrast was almost more than he could bear.

"Well, don't be down on your luck, boy, so long as you can get a good fat hen to eat, if she does happen to be too fond of seasoning before she's dead!" repiled the other, cheerfully; "we haven't struck it yet, but it's always darkest just before dawn, pou know. We may be millionaires before this time tomorrow."

"We may," answered Jack; but he didn't look as though he had much hope of it.

A few hours later the two occupants of the cabin sat down to their Thanksgiving dinner. It consisted of the hen aforesaid, cut in pieces and boiled—looking very queer, too—served in the kettle in which the operation had been performed. The table was one end of the bench, the table service two jack-knives and two iron spoons—absolutely nothing else.

The elder sat on a bench, the younger drew up a keg that had held powder, and the dinner was about to begin.

But the hen was destined never to be eaten, for just at that moment the door was pushed open in the rude way of the country, a box set down on the floor, and a rough voice announced:

"A box for Mr. Jack Jones."

Jack started up.

"For me! there must be some mistake! nobody knows"—he stopped, for he had not mentioned that his name was assumed.

"Likely not!" said the man with a knowing look, "but folks has a mighty queer way of findin' out," and he shut the door and left.

Jack stood staring at the box as if he had lost his wits. It could not be from home, for no one knew where he went

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when he stole out of the house one night six months ago, and ran away to seek his fortune. Not a line had he ever written; not even when very ill, as he had been; not even when, without a roof to cover his head—as he had been more than once; not even when he had not eaten for two days—as also, alas! had been his experience.

He had deliberately run away, because—how trivial it looked to him now! and how childish seemed his conduct—because he thought his father too hard on him! would not allow him enough liberty! wanted to dictate to this man of sixteen! he intended to show him that he could get on alone.

Poor Jack! the only comfort he had been able to extract from his hard lot these many months of wandering, of work, of suffering such as he had never dreamed of—his only comfort was that his tender mother didn't know, his only sister would no more be worried by his grumbling and complaints, and his father would be convinced now that he wasn't a baby. Small comfort, too, to balance the hardships that had befallen his lot since the money he had drawn from the savings bank—his little all—was used up.

"Why don't you open it?" in the gruff but not unkind voice of his roommate, whom he called Tom, aroused him.

"Maybe there's something in it better'n sage hen," trying to raise a smile.

But no smile followed. Mechanically Jack sought the tools to open it, an in a few moments the cover was off.

It was from home! On the very top was a letter addressed to Jack Jarvis in a hand that he well knew.

He hastily stuffed it into his pocket unopened. The layers of paper were removed, and each one was thrown off something new appeared. Not a word was spoken, but the kettle of sage hen was silently shoved on to the floor by Tom as the bench began to fill up. A jar of cranberry sauce, another of orange marmalade, oranges and apples, a plum pudding, a chicken pie, and lastly in its white linen wrapper, the turkey we saw browning in that far-off New England kitchen.

As one by one these things were lifted out and placed on the bench, a deep silence reigned in the cabin. Jack had choked at sight of the letter, and memories of days far different from these checked even Tom's usually lively tongue. A strange unpacking it was: how different from the joyful packing at dead of night with those two laughing girl faces bending over it!

When all was out and the silence grew painful, Jack blurted out:

"Help yourself," and bustled about busily gathering up the papers and folding them, and stuffing them back in the box, as though he were the most particular housekeeper in the world. But if Jack couldn't eat, something, too, ailed Tom. He said simply:

"Don't feel hungry. Believe I'll go out and see what I can find," and shouldering his gun, now cleaned and put together, he quickly went out and shut the door.

Jack sat down on the keg and looked at the things which so vividly brought home, and his happy life there, before him. He did not feel hungry, either. He sat and stared for some time. Then he remembered his letter. He drew it from his pocket and opened it. It was very thick; and when he pulled it out of the envelop the first thing he saw was the smiling face of his sister Jessie, his twin sister, his playmate and comrade, his confidante from the cradle. The loss of her ever-willing sympathy had been almost more to him than all the rest of his trouble.

This was another shock that brought something to his eyes that made him see the others through a mist. They were the pictures of his mother, whose gentle voice he could almost hear, and of his father, whose gray hairs and sad face he suddenly remembered was partly his ".. ..

At last he read the letter. It began:

Dear Jack: I've just found out where you are, and I'm so glad. I send you this Thanksgiving dinner. It was too bad for you to go off so. You don't know how dreadful it was for Mama; she was sick a long time and we were scared to death about her, but she's better now; she can sit up most all day.

"Oh, Jack! Father cried! I'm sure he did, and he almost ran out of the room, and he didn't say anything to anybody all day. But I was determined I'd find you. I shan't tell you how I did it, but Uncle John helped me, and now, Jack, he says he wants just such a fellow as you to learn his business, and he'll make you a very good offer. And, Jack, that's my turkey—my Winnie—and nobody but Betty knows anything about this box and this letter. I send you all my money out of the savings bank (I didn't tell anybody that), and I want you to come home. You'll find the money under the cranberries. I thought it would be safe there, and I knew you'd eat them all, you're so fond of cranberries. I didn't tell anybody because I want to surprise them, and besides, let them think you came home because you got ready. It's nobody's business where you got the money, anyway.

"Now do come right home, Jack. You can get here in a week's time I know.

"Your affectionate sister,
"JESSIE."

(Concluded next week)

RECIPES

Eat Little, but Have That Little Good

THANKSGIVING DINNER SUGGESTIONS.

Following are a few suggestions which we trust will be helpful to the California housewife for the great national day of thanksgiving and feasting:

Oyster Stew.—A good substitute for oysters in the stew is the oyster plant, which can be made to take the place of the oyster when the latter can not be had or the price is prohibitive. The oyster plant is now on the market and should be prepared the same as any vegetable—pared, cut in small pieces and cooked in boiling water. When tender cover well with milk, season with butter, pepper and salt. Serve the liquid only. About six plants will be sufficient to make soup for a family of four.

* * *

Waldorf Salad.—For family of four, take three good sized apples, pare and chop tolerably fine, add bunch of celery, cut fine; take cupful of English walnut meats, cut in small pieces, mix them all together and add good salad dressing. Serve on lettuce leaves. In the preparation of a big dinner the greatest objection to this salad is, that it must be made just before serving, as the apples discolor very quickly.

* * *

Turkey Comes High.—Of course Thanksgiving would not be Thanksgiving without the turkey. Here is where our readers will have the "edge" on their city cousins, as only those who raise turkeys can this year afford to eat them. Twenty-eight and thirty cents per pound is a little too high for the writer to contemplate calmly, and we pass the subject without comment on cooking or serving.

* * *

Cranberry Jelly.—Cook your cranberries till they pop open, then put through a colander to remove skins. Add cup for cup of sugar, boil a few moments. This will make firm jelly and can be turned out on plate when cold.

* * *

A Good Squash Pie.—Boil and sift a good, dry squash (Hubbard preferred), thin it with boiling milk to the consistency of thick milk porridge. To every quart of this add three eggs, two tablespoons melted butter, nutmeg or ginger if you prefer, and make quite sweet with sugar. Bake in deep plate with under crust.

* * *

Plum Pudding.—One pound flour, half pound stoned raisins, half pound suet, half spoonful of salt, sugar and spice, and other fruits as desired. Add milk to make rather stiff paste. Boil for four hours. The old fashioned way is to tie up in a floured cloth and boil. A better way is to put it into empty tin cans that you can close up tight with lids, and boil. There is less danger of being soggy. Put nails in bottom of boiling vessel to prevent the cans from touching and burning pudding.

* * *

For a Sauce.—Take two cups sugar, half a cup of butter, tablespoonful of flour, cream together till smooth. Add boiling water and boil till clear, then add desired flavor.

* * *

Novel Fruit Dish.—Take large pumpkin, cut in half lengthwise, hollow out, serrate edges, and pile high with fruit.

There is invested in the apiary business in this state over one million dollars and the income from this is about half a million dollars annually.

GOD UNDERSTANDS.

When trials are sore and distressing,
And few are the outreaching hands,
Remember, O Child of Thy Father,
Remember that he understands.
When hearts are turned from thee in coldness,
When hard are thy thongs and thy bands,
Remember, dear soul, that thy Savior
Is near thee—and he understands.
When e'en those who know him and love him
Are cold to thy pleas and demands,
Remember God knoweth his children,
Knows each, and that he understands!
Hold not in thine own heart a hatred
For those who refuse thee their hands;
God's love is deep as the ocean,
Forgive them, for God understands!

—Lida M. Keck.

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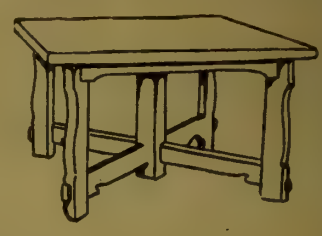
Thanksgiving Furniture

Next Thursday when the family assembles to partake of the Thanksgiving Turkey, you will want the dining room to look its finest. You well perhaps want some new piece of furniture suitable for the occasion. A table, sideboard, china closet, some chairs, a new carpet or rug, or, perhaps, some new curtains. We can supply any want in the furniture line. If you will write us what you desire, we will send it to you. We guarantee satisfaction.



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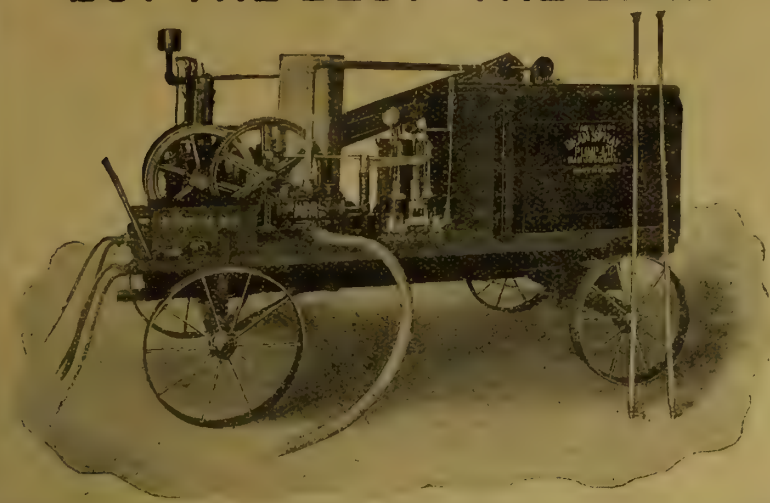

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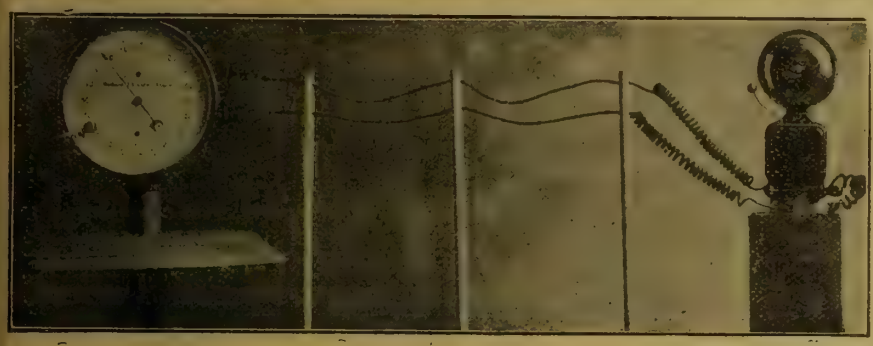

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908 N. MAIN ST. LOS ANGELES, CAL.

Los Angeles Markets.

LOS ANGELES, Nov. 20.

There is nothing new to write of the local markets. Thanksgiving time is looked forward to with anticipation, and prices are firm in all branches of the trade affected by this date.

Onions are scarce and prices have advanced to $1.50 per hundred.

Yellow Danours are nearly gone.

Potatoes are firm at quoted prices.

Beans are believed to have touched bottom, and dealers profess to see signs of pick-up.

Butter is firm.

Ranch eggs continue scarce and the market for all eggs is very stiff.

Poultry in firm demand and freely offered.

Other commodities steady at jobbing prices heretofore quoted.

Butter.		
B. of T. Creamery, 2lb roll		65
So. California, dairy do	60	62½
Cooking	45	30
Cold Storage	50	55
Cheese.		
California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	16	17
Swiss	13	
Imported		28
Eggs.		
Fresh Ranch	38	40
Fresh Eastern	29	30
Store, case count	25	26
Potatoes.		
River, per cwt		95
Salinas, do	1.50	1.40
Local, do	50	1.25
Sweet Potatoes		1.50
Beans and Dried Peas.		
Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00
NUTS.		
Almonds, paper shell		14
Almonds, soft shell	10	12
Walnuts, soft shell	14	14½
Walnuts, hard shells	13½	14
Peanuts, eastern	6	7
Peanuts, California	5	6
Vegetables; Mixed.		
Onions, yellow, per cwt		$1.50
Beets, per 100 lbs		90
Cabbage, per 100 lbs		90
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chilies, green, per lb		04
Caulinower	40	50
Celery, per doz		40
Green Peas		03
String Beans	02½	03
Lettuce, per sack	25	
Tomatoes, 30 lb box	40	50
Fruits: Fresh.		
White figs, 20-lb box		50
Black figs, 20-lb box		60
Strawberries, box, fancy	05	08
Blackberries		07
Pears, northern, Bartletts, bx 40 lbs		1.50
Peaches, per box, 40lb		1.25
Cold storage Peaches		1.50
Limes, per 100	90	1.25
Seedling Oranges, per box.	1.25	1.50
Northern apples, 40 lbs	75	1.25
Four tier belleflower		1.25
Four half-tier, Belleflower	1.00	1.00
Local, box 30 lbs		50
Guavas	04	05
Fruits; Dried.		
Apricots	05	08
Pears	07	08
Poultry.		
Spring Chickens, per lb	17	20
Hens, No. 1, per lb	14	14½
Ducks, per pound	13	14
Turkeys, per lb	19	21
Turkeys, cold storage	24	25
Live Stock.		
Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4 50
Cows and heifers	3.25	4.25
Calves	4 00	5 00
Hay and Grain.		
Wheat hay	10.00	12.00
Barley hay	10.00	12.50
Alfalfa	11.00	13.00
Corn	1.18	1.25
Barley		1.05
Wheat	1.35	1.40
Oats	1.15	1.25
MILL STUFF.		
Quotations f. o. b. cars L. A., are:		
Rolled Barley		1.15
Bran		1.20
Feed Corn Meal		1.50
Middlings		1.45
Cracked Corn		1.45
Oil Cake Meal	1.65	1.75
Chicken Wheat	1.50	1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

SAN FRANCISCO, Nov. 19, 1903.

The aggregate receipts of butter this week have enabled sellers to maintain the quoted rates on strictly fancy branches. Under grade stock showed a weakness which ran through the quotations of the week. Receipts of all kinds of butter aggregated 47,100 pounds yesterday.

BUTTER—Per lb:

Creamery, extras	32	@33
Creamry, good to fancy	26	@30
Dairy extras	24	@25
Dairy choice	22	@23
Store	18	@20
California storage	24	@27
Eastern Creamery	23	@25

There was no change in the quotations for cheese during the entire week, the demand being about normal.

Eggs and Poultry.

The continued scarcity of fresh ranch eggs held the market on a firm basis, and extra lots of selected whites commanded the extreme price and were closely cleaned up. The medium and lower grades of Eggs were steady in price, but the demand was not very active, buyers giving storage lines the preference.

EGGS—Per doz:

Ranch, selected large	47	@50
Ranch, good to choice	44	@46
Store	Nominal	
California storage	28	@32
Eastern	25	@30

There has been a lively demand for poultry this week, heightened by the near approach of Thanksgiving. Turkeys, especially, are stiffening in price, as the demand greatly over-reaches the supply to date.

POULTRY—Old Roosters, per doz, $5@5.50; young Roosters, $5.50@@6.50; Fryers, $5@5.50; Broilers, large, $3.50@4.50; small, $3@3.50; Hens, small, $5@6; large, $6.50@7.50; Ducks, per doz, old, $4.50@5.50; young, $5.50@6.50; Turkeys, per pound, 18@20c; Dressed Turkeys, per lb, 21@23c; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1@1.25; Squabs, $2@2.25.

Fruits and Vegetables.

The market for fruits has been fairly active this week.

Apples, per box, common to choice, 40@90c; fancy, $1@1.50; Lady Apples, $1.50.

Pears—Per box: Winter Nellis, $1@1.50; other varieties, per box, 35@75c.

Persimmons—Per box, 65c@$1.

Quinces—Per box, 35@65c.

Table grapes—Per small box, 40@65c; crate, 75c@$1; large box, $1.50@2.

BERRIES—Per chest: Strawberries, Longworth, $6@10; large varieties, $5@7, as to quality; Raspberries, $6@8; Cranberries, per bbl., Eastern, $10.50@11.50; Oregon, per bx., $2.50@3.

CITRUS FRUITS—Per box: Oranges, new crop Navels, $3.00@3.50; Seedlings, $2.50; Late Valencias, $2.50@3.50; Lemons, $1@3; extra, $3.50; Grape Fruit, $1.50@3; Tangerines, per box, $1.25@1.75; Limes, $4@5.

Vegetables of all varieties have ruled steadily all the week. A liveral quota of good stock has been furnished and readily sold.

No important features marked the transactions in this branch of the trade this week. There was general uniform movement and rather slow trading.

VEGETABLES—Tomatoes, per box, 25@85c; Green Peppers, per box, 25@60c; String Beans, per lb, 2½@5c; Wax, 3@5c; Lima, per lb, 3@5c; Los Angeles Green Peas, per lb, 3@5c; Egg Plant, per box, 40@60c; Los Angeles Summer Squash, per box, 75@85c; Bay, $1@1.25; Cucumbers, per box, 75c@$1; Garlic, per lb, 4@5c; Okra, per box, ——; Marrowfat Squash, per ton, $10@15; Hubbard, $12.50@20.

ONIONS—Yellow, per ctl, 75c@$1.25.

Dried Fruits, Nuts, Etc.

The market for dried fruits has been dull. Ther is practically no change in last week's quotations.

DRIED FRUITS.—Prices for carload lots, f.

Apples—Evaporated, 5@6c; Sun Dried, 3½@4c.

Apricots—Royal, fancy, 9½@10c; choice, 8@8½c; Moorparks, choice, 10@12c.

Peaches—Choice, 5¼@6½c; fancy, 8½@9c. peeled, in boxes, nominal.

Pears—Choice, 6½@7c; fancy, 8½@9c.

Plums—Pitted, 5@7c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 3@3¼c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Black, 4@4½c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1903

crop, f. o. b. at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.35; Two-Crown London Layers, $1.25; Muscatels, Four-Crown Standard, loose, 6½c per lb; do, Three-Crown, 5⅝c; do, Two-Crown, 5¼c; Seedless Muscatels, 4¼c; Seedless Muscatels, floated, 4½c; Seedless Standard Sultanas, 4¼c; Thompson Seedless, Standard Sultanas, lencias, Standards, 4¼c; do, Pacifics, 3⅝c; Orientals, 2⅝c; Malagas, Three-Crown, 5⅝c; do, Two-Crown, 5c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz, per lb, 8c; choice, 7⅝c; fancy, 12 oz, per pkg, 6⅝c.

NUTS—Per lb: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Peanuts, Eastern, 6@6½c; California, Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shell, No. 1, 12@13c; do, No. 2, 10@11c.

Beans.

The little business recorded in the Bean market was done in a small way this week and prices continue nominal in character. Slight revisions, however, are noted in prices, Pinks and Bayos being quoted slightly higher, while Small Whites and Pea Beans were marked down a shade. Limas are a little steadier.

BEANS—Prices per ctl: Large Whites, $2.15@2.50; small do, $2.90@3.10; Pea, $3@3.10; Lima, $2.90; Red, $2.90@3; Pink, $2.20@2.45; Bayo, $2.20@2.45; Blackeyes, $2.15@2.35; Red Kidneys, $4.25.

DRIED PEAS—Green, $2@2.50; Niles, $2.35 @2.50.

Live Stock.

CATTLE—No 1 Native Steers, 8@8½c: second quality, 7½@8c; thin Steers, 6¼@7c; No. 1 Cows and Heifers, 6½c; second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5⅜@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13.50@17; Wheat and Oat, $13@16; Oat, $11.50 @$14.50; Barley, $10@13; Clover, $9.50@11.50; Alfalfa, $$9.50@12; Stock, $8.50@10.50.

STRAW—Good to choice, per bale, 55@65c.

FEED CORN MEAL—Choice grades, per ton, $30@31.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26.50@29.

BRAN—Per ton, $22@23.

CRACKED CORN—Choice quality, per ton, $30.50@31.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BRAN—Per ton, $21@22.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@ 4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.38¾; choice, $1.41¼; White Milling, good to choice, $1.42½@1.52½.

BARLEY—Choice, No. 1 Feed, $1.13¾@ 1.16¼; off grades, $1.10@1.12½; Brewing, No. 1, $1.18¾@1.23¾; Chevalier, $1.30@1.45.

RYE—Good to choice, per ctl., $1.25@1.30.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.35@1.40; small, do, nominal; White, $1.35@1.40.

OATS—Good to choice White, $1.25@1.35; Red, $1.22@1.35; Black, nominal at $1.40@ $1.65.

Hops.

The price for new crop is 20@22½c, according to quality.

HONEY.

Prices on Honey were not changed during the week. The supply was fully equal to the demand.

Eastern Markets.

Grain and Produce.

CHICAGO, Nov. 19.—

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 77; No. 3, 78@81; No. 2 red, 82@83¾; No. 2 corn, 42¾. No. 2 yellow, 44; No. 2 oats, 34⅞; No. 3 white, 34@38; No. 2 rye, 53; good feeding barley, 36@58; fair to choice malting, 43@53; No. 1 flax seed, 94; No. 1 Northwestern, 1.00; prime timothy seed, 2.85; mess pork, per bbl., 11.37½@11.50; lard, per 100 lbs., 6.87½@ 6.90; short ribs, sides (loose) 6.75@7.25; short clear sides (boxed,) 6.50@6.62½; clover, contract grade, 10.50.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	44,700	30,700
Wheat, bushels	358,000	36,400
Corn, bushels	181,400	369,000
Oats, bushels	379,600	193,900
Rye, bushels	22,200	4,300
Barley, bushels	309,300	13,300

Chicago Live Stock.

CHICAGO, Nov. 19.—Cattle—Receipts, 17,000, including 1000 western; steady to strong; good to prime steers, 5.00@5.60; poor to medium, 3.45@4.80; stockers and feeders, 2.50@ 4.15; cows, 1.25@4.10; heifers, 2.00@4.75; canners, 1.25@2.40; bulls, 2.00@4.25; calves, 2.00@ 7.35; Texas fed steers, 2.75@3.50; western steers, 3.00@4.50. Hogs—Receipts, today, 35,000; tomorrow, 35,000; 10@15c lower; mixed and butchers, 4.50@4.80; good to choice heavy, 4.60@4.80; rough heavy, 4.30@4.45; light, 4.45@ 4.65; bulk of sales, 4.50@4.65. Sheep—Receipts, 24,000; sheep and lambs steady; good to choice wethers, 3.50@3.75; fair to choice mixed, 2.50@3.25; western sheep, 3.00@3.65, native lambs, 2.75@5.25; western lambs, 4.00@5.00.

DAIRY MARKETS.

On the Produce Exchange today the butter market was firm; creamery, 10@22; dairy, 14@19; eggs, firm, 22@24; cheese, steady, 10@11.

California Dried Fruits.

NEW YORK, November 19.—The market for evaporated apples is easy under a light demand, with prime fruit for future delivery offered a shade under 5½; common, 4@5; prime, 5½@5¾; choice, 6@6½, and fancy, 7. Prunes are a little firmer on the coast, according to private advices, but demand is good here, with prices ranging from 2@7 for all grades. Apricots remain dull, with prices more or less nominal; choice, 9¼@9½; extra choice, 10@10½, and fancy, 11@12½. Peaches, quiet; choice, 7¼@7¾; extra choice, 7¾@8¼; fancy, 9¼@10¼.

CITRUS MARKETS

ORANGE MARKET.

The season is practically over for Valencias. A few selling in eastern auctions at the present time bringing very low prices, and little demand in western markets.

There is a good demand for the Navels being shipped from the Northen part of the state. Prices for shipments to arrive after Thanksgiving will be necessarily low on account of competition throught two-thirds of our markets buying Floridas, Mexicans and Jamaicas, the Northwestern markets only being free from such competition.

LEMON MARKET.

There is little or no demand for standard grade fruit.

AUCTIONS.

NEW YORK, Nov. 11.

C. C. U., Alhambra. Excelsior Valencias, $2.45. Sunrise, $1.45.

PITTSBURG, Nov. 11.

C. C. U., Rialto. Blossom Sunsets, $1.50. La Belle Sweets, $1.30.

NEW YORK, Nov. 13.

C. C. U., E. Alhambra. Excelsior Valencas, $1.65.

CLEVELAND, Nov. 13.

S. F. Ft. Ex. Sierra Madre lemons, $4.10. Red Fame, $2.70. Canyon, $2.50.

CINCINNATI, Nov. 13.

C. C. U., Chula Vista. Sardonyx lemon, $3.30. Amethyst, $2.65.

NEW YORK, Nov. 16.

Semi-Tropic Ft. Ex. XXX lemons, $4.35. E. E. E. lemons, $3.40.

PITTSBURG, Nov. 16.

C. C. U., Pacific Beach. Sardonyx lemons, $2.75. Amethyst, $2.30.

BOSTON, Nov. 16.

C. C. U., Alhambra. Excelsior Valencias, $1.90.

CINCINNATI, Nov. 16.

S. A. Ft. Ex. Pet. Valencias, $1.60. Meteor Valencias, $1.45.

NEW YORK, Nov. 17.

A. C. G. Ft. Ex. Red Shield lemons, $4.40.

CLEVELAND, Nov. 17.

C. C. U., Pacific Beach. Choice lemons, $2.60. Standard, $2.45.

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Tickets on Sale Nov. 25 and 26, good returning until Nov. 27.

SUMMONS.

No. 42367. Dept. No. 2.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Doty T. Parks plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for the relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 14 day of Sept., A. D. 1903.

C. G. KEYES, Clerk.

(Seal) By C. O. Winters, Deputy Clerk.

SUMMONS.

No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.

By C. O. Winters. Deputy Clerk.

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Note the following extracts written by prominent fruit growers:

"If growers would generally place pots in their ranches, 25 pots fired per acre, in any frost we have had, would thoroughly protect the trees and fruit. I am sure many more will put in the oil pots next winter."—D. B. Bailey, Rialto, San Bernardino County.

"I am perfectly satisfied with the results. It furnishes sufficient heat to prevent frost damage during periods of cold weather and does not smut the fruit or trees. I find it even possible with these devices to carry the winter blossoms in my lemon grove through for summer crop."—N. W. Moodey, Glen Ellen Orange and Lemon Grove, Centerville, Fresno County.

"During the recent frosts the oil pots saved our crop except a few on the outside of the ten acres of Valencias."—W. R. Wood, Exeter, Tulare County.

"I found that, although the temperature fell to 20 degrees outside the protected area on January 16th, and again on February 14th, 40 pots to the acre gave me all the heat I needed for protection. I estimate that the crop saved on the Camilla orchard this season is worth $20,000. The fruit is heal hy, wtih fine flavor, weight and color."—N. G. Simms, Camilla Orange Grove, Lindsay, Tulare County.

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Producing Eggs at $5 Per Dozen

At this season of the year many of the poultrymen are producing eggs at a cost of from $3 to $5 per dozen, and they are selling them at 50c per dozen or more and losing money every day, when now is the time they should be just coining money.

The average poultryman thinks to be saving on the feed by buying cheap feed, the cheapest he can get, chop feed, shorts, etc., or anything that is the cheapest and he hauls it home and feeds three or four sacks of feed to get one dozen eggs and thus he produces eggs at from $1 to $5 per dozen.

It would be better for the poultrymen to pay $30 a ton, $40 or $50, or even $100 a ton for feed and get feed that produces eggs. Even at $100 a ton, a feed that three pounds of it fed to hens that will make them lay one dozen eggs, is cheaper than feed that you have to feed three or four sacks to get one dozen eggs.

Producing Eggs at 17c a Dozen on Coulson's Egg Food

L. K. Pierce on Mt. View avenue, Petaluma, has 450 hens which he feeds Coulson's Egg Food. It costs him $2.00 per day to feed the 450 hens and a few days ago when eggs were bringing 50c a dozen he received $6.00 per day from eggs sold, making a profit of $4.00 a day on 450 hens.

D. H. Ward, of Cotati, feeds Coulson's Egg Food and gets an average of 90 dozen eggs a week from his 500 laying hens. When eggs were 50c a dozen, Mr. Ward received $45 a week from eggs sold, and the cost of feed by feeding them all they will eat of Coulson's Egg Food as a mash, and wheat in the scratching pens is not over $16 per week. So Mr. Ward clears over $25 a week on 500 hens by feeding Coulson's Egg Food.

The Secret of Success in Poultry Keeping

The day has passed for making money with poultry by old fashioned methods. The farmers and poultry keepers that are making any money today are the wide-awake, progressive men and women, who study their business, who take advantage of the best facilities, latest improvements, modern methods, etc. In short they keep up with the times. They are the leaders and others who don't keep up to date are unable to comprehend the mystery of their success.

Incubators have taken the place of setting hens, and the study of the poultry keeper now is to make hens profitable in egg production, and to know what is needed and what is best when so many things have been called good for egg production.

We believe the majority of poultrykeepers obtain about one-half the quantity of eggs their hens are capable of laying per year, and they must keep a hen four years to get as many eggs as might be produced in two years.

A hen can be made to produce as many eggs in the first two years as she would naturally in four years.

Business in poultry is poultry for profit, and it is the most profitable branch of any farmer's business if properly cared for.

The hen must be kept in laying condition by feeding the proper food. Coulson's Balanced Egg Ration should be fed to every laying hen one meal a day the year round.

Coulson's Egg Food is no longer an experiment. It has been tested, tried and proved to be a success.

We know whereof we speak. Coulson's Egg Food will double the egg production of your hens.

The profit of poultry keeping depends upon the production of eggs, and while there are many other things to be considered in care of poultry besides proper feeding, yet we find that the most important thing of all, special feeding for eggs, has been overlooked by many of the poultry keepers. The analysis of eggs shows them to contain a variety of ingredients in definite proportions. To produce eggs in quantity, with economy, it is necessary to feed these component parts in proper proportions and in form more easily assimilated and digested.

Many have failed to make poultry profitable because they did not fully realize this.

Coulson's Balanced Ration Egg Food has been tested, and proved to be successful, and is now fed exclusively by many of the largest poultry raisers in the Southern, as well as Northern and Central parts of California.

It is just as proper and necessary to feed hens especially for eggs as it is to feed cows especially for milk, and sooner or later poultry keepers will wake up to this fact.

Loading Cars with Coulson's Egg Food

Chas. Miles on His Annual Trip Through Southern California—Photo taken at Watsonville

Profits from Poultry
Depends Upon How and What You Feed

Coulson's Egg Food, a balanced ration of ready mixed feed for laying hens is what makes the hens lay lots of eggs, and now that eggs are bringing a good price you should purchase a ton or two of this feed and make some money out of your hens.

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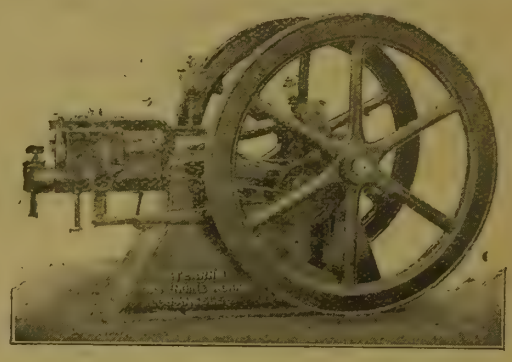

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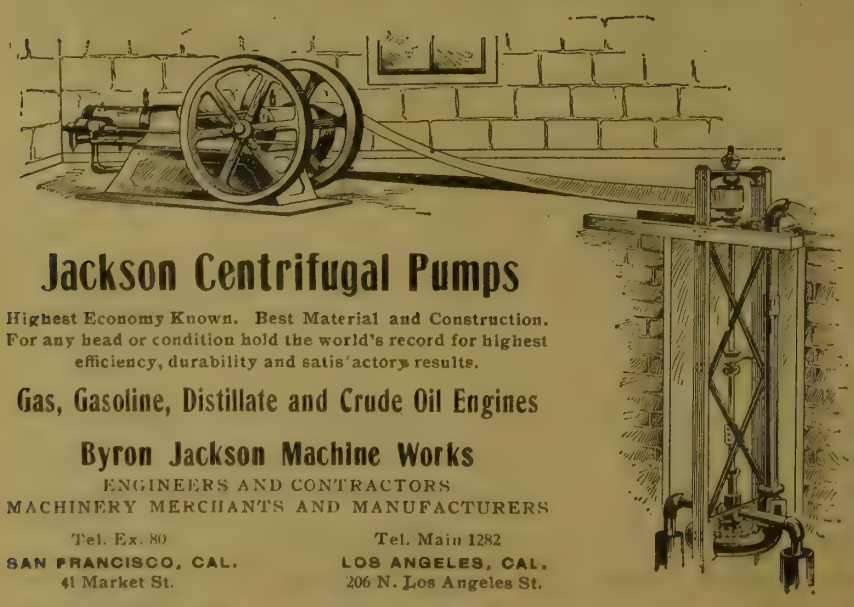

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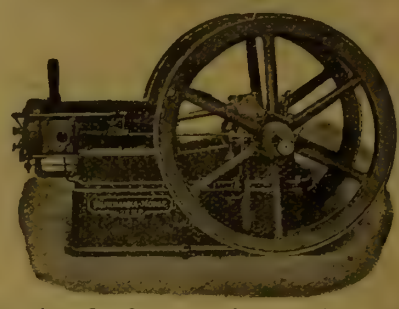

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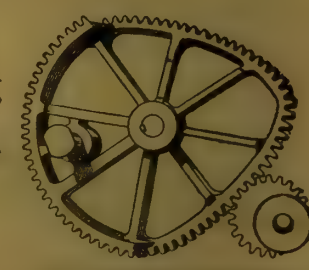

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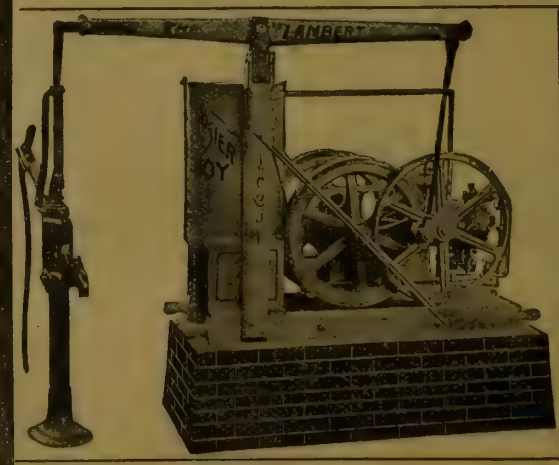

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California Cultivator

LOS ANGELES SAN FRANCISCO

NOVEMBER 27, 1903

THE AUTOCRAT OF THE THANKSGIVING DINNER TABLE

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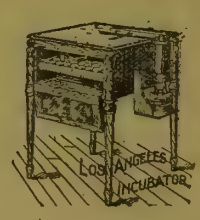

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35c EACH; 3 FOR $1.00

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 22 LOS ANGELES, CAL., FRIDAY, NOVEMBER 27, 1903 Subscription $1 a Year

Raising Winter Vegetables

BY S. J. MURDOCK, LOS ANGELES

It is a grave question with many tillers of the soil what to grow to get the best results for the labor, seed and other expenses bestowed. For a large majority this problem is already solved by environments not easily or quickly changed, but to the new comer and those just starting as farmers, it is quite a serious question.

We well know that the citrus industry claim first place with the majority of persons coming from the East. But for the man of moderate means it takes a long time to get an orange grove into bearing so as to be a paying investment. There must be some source of income to meet necessary expenses while the grove is maturing, and there are many localities not adapted to citrus fruits,and also many persons not fitted for the occupation of fruit growing, so it will be necessary to turn to something else for an occupation. We believe there is one branch of soil tilling that offers many inducements to the beginner, or to those who have vacant land between growing trees.

Growing winter and early spring vegetables both for shipment and for local consumption embraces a wide scope of efforts, as the territory and the markets to be supplied are yearly increasing in rapid proportions from the tourists, and settlers locating in the state.

We know not the seasons for fresh garden truck as we did thirty-five years back, when the first green vegetables were eagerly sought. The trade wants cabbage, carrots, beets, onions, radishes, lettuce, and turnips the year round, and expect asparagus, peas, cucumbers, tomatoes, parsnips, celery and cauliflower, most of the time. Not many persons realize the amount of fresh vegetables consumed in the city daily, as there is an ever increasing demand for first class goods. Often fancy prices are realized by the careful grower. We cannot raise the vegatables of fifteen or twenty years ago, make a success of the business, for there is as much improvement in vegetables as in many classes of fruits.

While the Chinamen have the bulk of the retail trade, and to some extent some lines of the wholesale trade, there are many white men who are making a specialty of vegetable growing, and there is room for many more. But the man to make a success of the business, he must be abreast of the times, not only grow good truck but know how to pack and market the same. Location will often solve the problem of what to grow, and it would be folly for a person whose land is situated in the warm foot hills to grow celery, cabbage, or cauliflower, or for him who is located in the cool moist valley to try to compete with his neighbors of the warm belt in raising string beans, early tomatoes, and other tender vegetables for winter and early spring sales. Each locality should grow the crops best adapted that section. There are many points of vantage to consider in choosing this line of production, such as quick returns, variety, utilizing home help, light work and a healthy occupation, also suited to those of small or medium sized bank accounts. To be sure the new comer will have to learn the wants of the trade, and forget or drop many of the essential points that are considered necessary to the eastern gardener. We have no long cold winters, no snow, yet we have some frosty nights in the valleys that will nip the tender plants ,while beets, carrots, parsnips, turnips, cabbage, onions and other hardy vegetables grow through the whole of the so-called winter month but not so rapidly during December and January as the periods of longer days and more sunshine. A great many eastern people believe that our summers here are quite hot, while the fact is we have a great variety of climate in Southern California. We have many miles of ocean front that temper the air for quite a distance inland, and many enjoy the summers equally as well as the rest of the year. There is no week in the whole year that we can not plant vegetables of some kind unless possibly an extra long wet spell when the soil may be too wet to work, but such a period has not occurred in the last seven years except on naturally quite moist land.

We do not think the business can easily be overdone, and we are sure there is a big demand for first class garden truck. The trade of Arizona, and New Mexico, is still growing larger each year, and while the eastern shipments are often limited, or curtailed by the lack of good shipping stock, there is but one California, and as there is but a limited area in the state, where winter vegetables are grown, over production will not exist till all wants are supplied. The question of profits is a rather difficult one as the profit is so large, in some instances, as to almost exceed belief, and in other cases so small as to be trifling, but this condition can generally be traced to bad management, lack of experience, or insufficient means to give the necessary labor required, yet on the average, returns are fully as good as many other branches of industry.

In conclusion, let me say, the vegetable growing interest in Southern California, especially the early vegetables, onions and that class, will pay well, and the soil is abundantly productive if properly cared for.

CALIFORNIA ONION FIELD Courtesy of Sunset

State Fruit Growers' Convention will be held at Fresno Dec. 8th.

SEED POTATOES.

W. J. J., Yuma, Arizona, inquires whether seed potatoes can be procured from the northern valleys of Arizona. The writer has attempted to interest farmers in the valleys to the north of Phoenix in growing seed potatoes for southern customers, but finds that they have little incentive for so doing. The tillable and irrigable land in the higher, cooler valleys is limited in quantity, and the demand for farm produce at the mining camps good. Hence prices are so high in most of these localities that there is no need of shipping many potatoes to southern points.

Since in the warm interior valleys it is well nigh impracticable to keep seed potatoes over from one season to another, nearly all the potatoes planted in them are obtained each season from California. Early Rose and Triumph are the only two varieties generally planted, and these are shipped in at planting time especially for the purpose, the price usually being about $2.75 per hundred at Phoenix.

As indicative of the tendency of the times, the San Francisco Chronicle says: "One of the beet sugar exploiters openly urged the American farmers in Colorado to have their wives and daughters hoe and weed the beets, which he described as eminently healthful and agreeable occupation, well-suited to women." The Chronicle promptly protests against introducing such a foreign and un-American slavery of American women and girls as that suggested.

A Farmers' Institute will be held at San Diego Dec. 3 and 4.

The rose has its thorn and even the beautiful golden rod is filled with hay fever.

CALIFORNIA CULTIVATOR

ESTABLISHED 1889
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Nov. 20, 1903

Circulation this issue 9,700

ITEMS OF INTEREST.

Let Us Give Thanks.—There are many reasons why the American people should be thankful today as they sit down to their annual feast of good things. In the first place we should be thankful that we are a free people. By this it is not to be considered that liberty and license are synonomous terms and that they are to be transposed to suit the caprice of an ignorant or vicious class. We are to respect our laws, for by the observance of them is our liberty secured. We are not to think nor are we to act as if freedom means license to disobey the properly constituted authorities of our land. The law should be supreme and our reverence for it such as to make us ever mindful of the blessings which order and observance of our laws bring. We should be thankful again for our educational opportunities. No nation in the world enjoys such qualifications to educate her youth as ours. Our common school system is the basic principle of our growth and development. We foster it, as if it were indeed the corner-stone of our liberty. Our Puritan fathers and mothers realized the importance of leaving, as a legacy to their children, the blessings of a good school system, and to this end sought to create a broader desire for education than was entertained by the old country from which they emigrated. Washington most fervently preached this doctrine and it has been handed down the century until today, more than any other, it represents the active principle in our American life.

When we compare our ratio of illiteracy with other countries we should be exceedingly grateful for the blessings of our educational system.

Again should we be thankful for the church privileges which are accorded the nation. To millions of our people this means so much. They have been educated to believe in the church. Their happiness depends on their freedom to worship God according to the dictates of our conscience. In this government no restraint is put upon the religious principles of any individual so long as he does not use his religion as a cloak for the commission of unlawful acts. There are those who think our freedom too broad in this particular; but we may always feel assured, so reverent is our feeling for things holy, that no sect will be permitted to abuse the religious sentiment of the land by going outside of the teachings of the Divine Master. If we follow those teachings well we need have no fear of the future. Among our numberless blessings were our intrepid forefathers and mothers. To them do we owe all we are as a nation. But for them our country might be the property of some government like Spain, without progression, civil or religious, and we the serfs of kings instead of the kings and queens we all are by reason of our civil and religious liberty.

Let us then rejoice in life which is so full of sweetness to all who court it, rejoice in our country, the grandest on earth; rejoice in our state, which of the cluster composing the Union is the fairest of all.

* * *

A Fruitarian Diet.—The Agricultural department of the University of California has just issued a bulletin in relation to a diet which embraces the combining of fruits and nuts into a perfect diet for the support of the human body. The investigation, it seems, has been going on for some time, but the university has but recently reached a conclusion, which it could support. In this bulletin just issued, embodying the results of experiments, it is stated that "after exhaustive trials the fruitarian diet is found to be as valuable to the body as the ordinary mixed foods and the cost is about the same."

The intelligence afforded in this pamphlet is pleasing, in that is shows we can subsist on a much more healthy and much less expensive diet than we are at present using. The vegetarians have long contended that the use of meat and animal fats are deleterious to the health of man, while our mental scientists aver that "as we eat so are we." If we eat pork our nature becomes coarse and brutal. If we use much beef we create coarse tissues, and in time, bring on sciatic rheumatism and other ailments.

Now the fruitarian teaches us that we may live and thrive on fruits and nuts put up in a sort of balanced ration at from 18 to 20 cents a day.

We shall wait with interest the further development of this idea. If it shall prove what is claimed for it, we have indeed reached a very satisfactory condition, for it will eliminate all annoyance incident to the preparation of our meals, but it will vastly serve to solve the "servent girl question," and therefore bring a boon to the housewife. By all means let our benefactors press their investigations further; that we may know to a certainty with what economy we may furnish our daily meals, and how many years we may expect to add to our lives by the adoption of the fruit diet.

* * *

Growth of Pacific Coast.—The expansion of trade and the internal growth of the Pacific Coast in the past four years is best shown by the annual bank clearings for the years 1892, 1894, 1901-2. "In those years, says the Financial Chronicle, the aggregate clearings of the banks in the cities of Los Angeles, San Francisco, Portland, Seattle, Spokane and Tacoma were $1,067,000,000, that from this there was a drop to $832,000,000 in 1894; that 1901 saw the total go up to $1,726,000,000, while in 1902 there was a further advance to $2,129,000,000. Every one of the points has shared in the wonderful upward movement, the clearings at San Francisco in the years from 1894 to 1902 having risen from $658,000,000 to $1,373,000,000; those of Los Angeles from $47,000,000 to $245,000,000; those of Seattle from $27,000,000 to $192,000,000; those of Portland from $56,000,000 to $154,000,000; those of Spokane from $14,000,000 to $88,000,000; and those of Tacoma from $29,000,000 to $75,000,000. Everyone knows that the foreign trade of the Pacific Coast has been expanding in a very rapid way during the last few years.

* * *

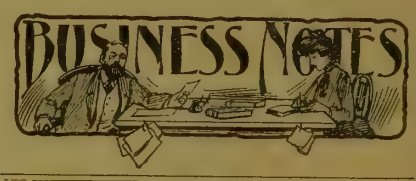
California's Wealth.—California annually produces wealth as follows:

$17,000,000 in gold.
$10,500,000 of petroleum.
$72,500,000 in copper.
$6,000,000 miscellaneous metals.
96,000,000 pounds of raisins.
150,000,000 pounds of prunes.
50,000,000 pounds of dried fruits.
450,000,000 pounds of oranges.
23,000,000 pounds of nuts.
350,000,000 pounds of fresh fruits.
43,000,000 gallons of wine.
18,000,000 bushels of wheat.
16,000,000 bushels of barley.
4,000,000 bushels of potatoes.
115,000,000 pounds of beans.
160,000,000 pounds of beet sugar.
11,000,000 pounds of hops.
7,000,000 pounds of wool.
4,000,000 pounds of honey.

And many other things too numerous to mention.

* * *

To all our friends, both far and near,
The Cultivator sends good cheer.
That you may feast to beat the band,
Here is a turkey right at hand.



STILL GROWING.

We spoke last week of the exceptional growth of the Cultivator as to its circulation, and, as noted then, we put up nine thousand five hundred papers for our regular list, which is this week increased by two hundred more, or a clean issue of nine thousand seven hundred. Better than all, the boys who are in the field scattered over the state looking after the interests of the paper send in so many hearty congratulations and commendations from old subscribers that it is most pleasing to know the hold which the paper has with its vast family of readers.

Equally as gratifying is the feeling towards the paper by our advertisers. Last week's paper showed practically fifty columns of advertising matter, which is by long odds the greatest which has ever appeared in the Cultivator. That feeling of confidence may continue and that it may be justified by the returns which will be received, is the firm belief of the management of the paper.

Another factor which has in it a lesson is that the patronage has a wider range as to location in the state than ever before. From new sections each day comes new friends who become believers in the paper. But the best of it is that the old patrons are still staying with the paper, as may be indicated by the letter below.

"S. J. Smith, wholesale and retail dealers in Lambert Gas, Gasoline and Distillate engines, Aermotor windmills, 129 North Los Angeles St., Los Angeles, Cal., Oct. 10, 1903.

"California Cultivator—I am in receipt of your favor of the 8th inst., re. what we think of the "Cultivator" as an advertising medium. In reply will say that we have kept our advertisement in the "Cultivator" continually for about ten years past, from which you should be able to draw your own conclusions. Very truly yours,

S. J. Smith.

Mr. Smith has sold Lambert engines for many years to irrigators and farmers who have use for a thoroughly reliable power and this sale has been largely increased through the columns of the Cultivator, that is, if we are correct in our inference drawn from his letter above. Mr. Smith believes in handling goods and reaching good people in selling them.

* * *

Another advertiser who has been not so constant because of being in a different business, also in having a business which is not so large as some others, has been J. W. Bairstow, of Hanford, Cal. The Hanford nurseries have supplied the foundation of many successful deciduous orchards of Central California and more recently have branched out, covering many other sections of the state, as well as Washington and Oregon with his new and popular Tilton apricot, which he has introduced and pushed into the market.

This apricot is one that bears immense crops even in years when other varieties are almost a total failure.

This wonderful new apricot has not failed once since it began fruiting twelve years ago. While all the leading varieties have failed several times during that period, the Tilton has gone on and fruited continuously each successive year, producing unheard of crops of the largest and finest flavored apricots that have ever been seen.

This tree has not only proved a vigorous grower and regular annual bearer but has large sized, finely flavored and beautifully colored fruit.

This year was no exception and while Mr. Bairstow has hollered loud and long in extolling the merits of his pet fruit, he seems to be making good each season.

* * *

We do not know that the varieties of grapes which have been found adapted to California conditions have ever been numbered or not, they certainly seem almost numberless. There are a few; however, which attract more attention by their being prolific bearers of wonderful fine fruit. One of these perhaps not so well known as some others at least, is the Black Cornichon; a crate of which is on the table before us as we write and may give some coloring to this item. Be that as it may—handsomer grapes were never shown, and to our taste, never better eaten.

These grapes will run practically an inch and a quarter in length, some of them running to one inch and a half in greatest length. They are dark purple or almost a black, are very fine flavor, very thick skin. They ripen and remain on the vines from October to Christmas and, owing to their being so firm and thick skinned, may be kept in cold storage until the first of February. Thus it may be seen they are not only beauties but money-makers.

The vineyard from which these came belongs to Mr. Ingveldsen, of Pasadena, and he tells us that these grapes are readily picked up by buyers who take the vineyard in a lump sum, paying at the rate of two hundred dollars per acre for the fruit.

Not so worse.

Especially when it is considered that the grape is a comparatively easy fruit to cultivate and care for. Notwithstanding that, Mr. Ingveldsen's vineyard would tell of good care, thorough cultivation, and intelligent handling of the vines at all times; and sure it is that he has raised some beautiful fruit.

Mr. Ingveldsen's vineyard is on the corner of Hill and Washington streets, of Pasadena, and he is ready to contract for cuttings for this season's delivery.

* * *

TONS OF SEEDS.

The amount of business done by the Germain Seed House of Los Angeles can be appreciated by a few moments' look through the basement, store room and nursery yard of that large concern.

The salesroom is immense and back of it, where seeds of all kinds are stored, there is already in stock possibly seventy-five tons, with the necessity of providing for storage for a large amount more within the next few days. These seeds range in price from four or five cents up per pound. Back of this storeroom are the yards of the nursery stock, which is a most handsome showing of fine stock.

General Agriculture

THE MANGO.

Having some inquiry as to the mango, the Cultivator has written to P. H. Ronsee of Riverside with request for some information which he has given to us ,and from which we quote:

The mango is one of the most valuable and delicious of East India fruits. In Southern Florida, it adapts itself to poor sandy soil, also to the heavier muck soil. The best soil, however, is thought to be high, well drained sandy land. I have seen the mango grow higher than scarcely any other tree would grow, in almost pure sand.

This tree is practically a tropical tree, hence will not stand a low degree of cold. Do not know how much cold it could stand without dropping its leaves. I know of one tree which was three years old, five feet high, which in 1895 withstood four degrees of freezing and did not drop its foliage; this tree was however dormant. Surely a hard frost will kill the tree back to the roots in which case the trunk should be cut back at once to sound and live wood. To succeed in California ,the mango should be planted along the foot-hills in protected places or along the coast line of San Diego and Santa Barbara Counties where there may be least danger from frost.

The tree in Mexico grows forty to fifty feet high, very much like the magnolia tree is upright in growth and is very handsome. The flowers are produced in March and April at the end of the branches, and yield many crops of golden or green fruit. The leaves are beautiful, six or eight inches in lenght and in new growth are wine colored. It will bear three years from the graft or five years from the seed. Grafting is all done on the seeding mango, it does not come true from seed. From what I have seen in Mexico and here in Riverside, I should judge that it would need about the same amount of water as an orange or lemon tree.

There are many varieties among them as the Mulgoha which is said to be the best variety. The fruit is large, weighing from a half to a pound, color golden, dotted with many brown dots rich, sweet and of fine flavor. The tree is an enormous bearer producing as many as twenty-eight or twenty-nine thousand mangoes on one tree in its native land.

The fruit has never been offered in any quantity in Southern California markets, although it has sold quite extensively in the East where it is imported from Mexico and the Islands. Trees may be had in Southern California costing from fifty cents to one dollar and fifty cents each. The planting should be done in March, April or May.

SOME LOS ANGELES COUNTY APPLES.

The exhibit of Los Angeles County apples now at the Chamber of Commerce is instructive as to the possibilities of that county in apple culture. As an apple section it has never been particularly popular notwithstanding a very material section of the rich lands between the city of Los Angeles and the coast on the south. The conditions here have been known to be favorable, and a few have taken advantage of them and are today producing some fine fruit.

This exhibit is made by Fredrick Maskew of Long Beach; E. H. Henry, Downey; S. P. Walser, Downey; H. C. Harper, Downey; J. P. Squires, Downey; T. R. Gagley, Downey, Wm. Wood, Rivera; W. H. Graig, Compton; Russell Kingcaid, Cerritos.

There are Pearmains, Belleflowers, Hoovers, Arkansas Beauty, Missouri Pippins, Smith Cider, Kentucky Redstock, Arkansas Black.

Of these, the three varieties, that is for commercial purposes are the Pearmain, Belleflower and Missouri Pippins.

We hope to give special attention to apples in Los Angeles county in an article within a short time.

LOSSES FROM DESTRUCTIVE INSECTS.

Insects are such insignificant things that, even when we know them to be injurious, we rarely comprehend the extent of damage they do and the amount of loss they cause us. Dr. H C. McCook in an article in Harper's Weekly gives some figures in this matter that are startling to one who has never studied it. The chinch bug, he says, caused a loss of $30,000,000 in 1871, upwards of $100,000,000 in 1874 and $80,000,000 in 1877. The Rocky Mountain locust in 1874 destroyed $100,000,000 of the crops in Kansas, Missouri, Nebraska and Iowa. The cotton caterpillar causes an average loss of $15,000,000 in the Southern states, while in 1868 and 1873 this loss was doubled. The grain weevil inflict an annual loss on us of $40,000,000 and the codling moth destroys from $30,000,000 to $40,000,000 of our fruit annually. These are but a few of the destructive insects which are working in our crops, and, if it were possible to compute the damage done by all, the figures given above would appear insignificant. It is a fortunate thing that for most of our destructive insects nature has provided enemies that keep them in check.—Exchange.

Thomas Browning, of Fresno, writing of American grown apples, disagrees with the Cultivator in its statement that our apples have a relish and flavor not found in the product of foreign lands, although he says: "England is America's largest customer for apples." "Connoisseurs in taste and gastronomic art," says Mr. Browning, "concur that American apples are subordinate in quality and relish both to English and Canadian grown apples."

The fact that England is one of the largest buyers of our apples shows in what esteem that country holds our fruit, and proves the truth of the Cultivator's statement. The average Englishman knows what good fruit is—he always wants the best. If American grown apples were not to his liking he wouldn't buy them, for he can get them in countries nearer home at less cost. Frank Carpenter is authority for the statement that no better apples are grown anywhere than in this country.

The San Francisco Chronicle says of the loganberry that it is naturally a trailing vine running upon the surface of the ground and reproducing itself by forming roots where it happens to get covered with earth, or without that, where the ground is sufficiently moist. Nature cares nothing for good clean berries, readily accessible, and this method of growth answers her purpose as well as any other. Man, however, wants the berries, and, therefore, trains the canes to trellises or stakes, which involves the labor of layering each year a sufficient number of tips to produce the bearing vines for next season. During the growing season bend down a shoot, covering it an inch or two and hold it in place with a forked stick, but letting the tip project out of the ground. As the vine grows the operation can be repeated with the same twig. In this way bearing wood may be obtained for the next season, or in the spring the vines may be divided for use elsewhere.

BY J. W. JEFFREY, LOS ANGELES

HUMOROUS AMENITIES.

The offer of the manager of one of the leading organs of the commission merchants in the East, to blow hot or blow cold upon the business of the California Fruit Agency according to the liberality of the latter, in advestising patronage, has brought forth a reply from the agency's Los Angeles office, that is convulsing the fruit trade circles of the continent. We have had the privilege of reading the reply to the organ's mercenary representative who offered to modify his opposition to the agency's program if the latter would only advertise in the journal. It is a gem that only the climate here and the habit of holding one's own against the effete opposition of a frightened trade can produce. It is to be hoped the Cultivator may secure this little literary gem and publish it to add to the gaiety of the holiday season. It proves that the safest plan for the eastern critics to follow is to keep away from the danger line, to curb their desire to be smart at the expense of Californians, to refrain generally and to avoid difficulties of all kinds, wherever it is possible. Mr. Tuck's friends should sing him the old Santa Monica refrain, "Mother, may I go out to swim," "O yes, my dearest, but when you put your trousers on, don't you go near the water."

Commission men rampant.—This is the first season the commission merchants of the East have shown general opposition to the co-operative plan of marketing citrus fruits. They have never approved of it, to be sure, but heretofore they have regarded it as but an experiment in which at best only a portion of the growers had joined, with the prospect from their point of view of an early demise of the co-operative institution that had given them some uneasiness but little fear of the final outcome. We cannot blame the eastern merchants for not being able to size up the situation here, for few of them have had much personal contact with the representatives of the co-operators and they could not otherwise find out the true situation. We can trace out a few causes that led the commission merchants to believe nothing could succeed unless it had their sanction and support.

In the first place, commission dealing as practiced by these distant and often irresponsible dealers, is a subversion of the laws of barter and trade. It disputes the fact that it is as much the business of the orchardist to sell his fruit as to grow it. Because circumstances or usurpation have caused the grower to submit his products to the irrevocable charge of the commission men, the latter have assumed that that is the only practice possible, or the only right method of conducting the sale of fruit. On the other hand the cardinal principle of the cooperators is the old fashioned one of going to market with what one has to sell, and to keep it in hand till the bargain of sale has been made and the cash turned over in exchange for the commodity. The Exchange formerly, and now the California Fruit Agency enunciate no new commercial principle when they declared to sell their own produce, but rather reaffirmed an old one, that was held thousands of years ago, for example when Jacob and Esau made their famous trade, and delivered the goods without the intervention of the middleman, It cannot be disputed that the commission merchants had reason for believing that their cinch was everlasting. We all know of commission men who have grown gray in the business established by their grandfathers. Generally, or almost universally the producers of perishable goods have acknowledged this sway till it began to be claimed an indispensible adjunct to the fruit business. Through generations of dissatisfaction, loss and demoralization, the eastern farmer has submitted to the surrender of his produce without hope of influencing its final disposition or effecting its selling price—without expecting to know, in fact, whether his returns added to the commission charges were of the figure reported by the merchant. Now that this long-distant "graft" has been eliminated it is little wonder the former dealers in citrus fruits are trying to raise a cloud around the operations of the new selling agency. Southern California today is the archievement of the orchard and farm, but such achievement would not have been possible had the fruit industry been left dependent upon the system of selling through distant and often unreliable commission houses. The Cultivator said three years ago, "We do not believe that anything but the masterful enterprise of the few hundred men who fought to a finish all opposition, could have produced the results Southern California has been enjoying the last few years in a financial way." These men did it by giving the first great blow to the commission system that wrecked the business of fruit growing ten years ago.

Not only have the commission merchants failed to realize that they are not a necessity but they fail to grasp the idea that it is plain business sense for the grower to look after his own affairs. The growers have discovered and demonstrated that the hard grind of commercial competition among themselves, either in selling outright, individually or coming into contact with each other in the commission stalls is ruinous. Regard for each other's interests may seem altruistical, but it is not when it eliminates competition, destroys unnecessary factors between producer and consumer, and cheapens the service of preparing the fruits for markets. It has proven a strictly business proposition of paying proportions, and we need no longer apologize for the application of a practice that has proven a clean-cut, financial success. When the first selling agency of 1896 began to cut out the maverick takers of unearned profits, their lashes began the requiem of commercial egoism that had thralled the farmer so long, and set forth with the logic of success that the so-called altruism was but the reassertion of the old principle, "In union there is strength," and that fellowship in gain or loss, was preferable to leaving the individual helpless prey of the unscrupulous, and a foil for the destruction of the whole. What of the commission system yet remaining with the operations of the agency, has been brought home, and is between the grower and the dealer, he has been patronizing for years. The grower has no fear now of his home commission man, his fruit packer in fact, giving him fraudulent returns. That is impossible under the system that has eliminated the free lance commission merchants and which is causing such a commotion in the ranks of the eastern traders.

California Horticulturlly

BY JOHN ISAAC, SACRAMENTO, CAL.

NEEDED HORTICULTURAL LEGISLATION.

The association of County Horticultural Commissioners of the state will hold their annual session at Fresno during the week of the convention. Some very important business will come up before them, chiefly in the line of needed legislation for the more effective carrying out of their work. Under our present laws there is an open door for the introduction of infested stock into the state in spite of the most strenuous efforts of the county commissioners or the State Horticultural officer. In some of the counties the horticultural laws are entirely ignored and the supervisors refuse to appoint a board of horticultural commissioners or to take any measures whatever to prevent the orchards of their counties, or of the state, being made the receptacle for outside pests of any kind.

In others the supervisors have appointed a dummy board in order to comply with the law, with the understanding that the board shall not do its duty. In the efforts of these recalcitrant counties to nullify the law, the supervisors can hardly realize the extent of damage they may be doing. The one great industry of our state is horticulture, our fruit and fruit prodûcts amounting to more than tne output of any other industry. Our legislators have endeavored to guard this great industry from more ills than it now has to contend against, and the greatest of these ills is the introduction of new pests and diseases. Yet there are supervisors in our state, so ignorant or careless, that they will leave an open way through their counties for the introduction of pests which may cost our state and our fruit growers millions of dollars. Fortunately surrounding counties have careful inspectors and the state faithful officers. By this means the danger is minimized, but in spite of this, new pests, and serious ones, have been introduced in this way, and the dread black aphis of the peach, and the hop louse, have found an entry through these unguarded counties, in spite of the best efforts of others. The better guarding of these open spots will be a matter for the consideration of the commissioners at their next meeting.

* * *

THE RAISIN MEN'S PROBLEMS.

The Raisin Growers' Association is facing a serious proposition, in the handling of the season's crops. There are from 5000 to 5500 carloads of new crop raisins to be disposed of. The crop this year is the heaviest in the history of the raisin industry in the state, and while the great bulk of it is in the hands of the association, there are yet enough on the outside to inspire a feeling of uncertainty on the part of the jobbers, who do not know when these may be thrown upon the market, and prices depressed. As a result, buyers are conservative, and sales are light. The growers' contract is of but one year's duration, so the crop has to be handled speedily, if at all, and the association is faced with the conditions of an enormous crop, slow markets and short time. It is no wonder that they feel uneasy as to the outcome.

* * *

RAIN AND WHEAT IN THE NORTH.

A week's heavy rains have put the soil in the Sacramento Valley and the lower San Joaquin in good shape for farm work, and the plows are now busy in all directions. In spite of the fact that the yield of wheat per acre is steadily lessening, and that there is very little profit in it, there will still be a very large acreage put in this season, probably the usual average. This is due largely to the fact that very much of the grain land of the upper country is worthless for any other crop, and it must be sown to wheat or left idle. In many of the great wheat districts there are no means for irrigating; in some, water is not available, and the farmer is left with Hobson's choice—wheat or nothing. It is not a question of profit with him any longer, but, in many cases, of sufficient returns to enable him to keep his head above water. In the sections where water is available, the wheat farm is gradually giving way to the orchard and other branches of agriculture, and in all, the matter of irrigation and diversifications of farming is one being seriously considered. The conservations of the winter rainfall and the economical application of water to land are questions which are forcing themselves upon the northern wheat farmer, and in a few years they will be solved, with the effect that only such lands as are entierly out of the reach of water will be used for wheat.

AN UNNECESSARY SCARE.

I notice the following item in the Cultivator of the 13th, inst.:

"Horticultural Commissioner J. P. Keller, of Alameda county, says just now large quantities of limes and lemons are being shipped into this state from Mexico, and that nearly all of them are infected with red scale, and he fears California plant life will be injured by it.'

Mr. Keller is evidently in error here or he has been incorrectly quoted, for the red scale is never found on limes from Mexico, and lemons are not imported for sale from that country. Sometimes passengers from Mexico will have a few lemons in their baggage, but these are always carefully examined and are never found infested with red scale. The only scales found on the limes are purple and ficus, and both of these are very rare. All this fruit is carefully inspected before it is admitted, and nothing that is likely to be detrimental to our orchards is permitted to enter. Either Mr. Keller is in error or some one is trying to work up a sensation. Any fear as to the injury to plant life from red scale is unnecessary as we have it already firmly established and any orange grower in Southern California knows tnat it is as bad as it can be now.

* * *

AN IMPORTANT CONVENTION OF FRUIT GROWERS.

The Fruit Growers' Convention, which is to be held in Fresno on December 8th to 11th, gives promise of being the most interesting and best attended ever held in the state. A special feature will be made of the grape and raisin, in their various phases, and as this subject is one of immediate interest to the whole state, it promises to elicit more than ordinary discusson. The unlooked for depression in the price of wine grapes by the Wine Association, will be taken up, and methods for the wine men to escape from its cotnrol will be considered. The steadily increasing output of raisins and the best methods of disposing of them will also come up, and both of these questions will be dealt with by the leading men of the state. M. Theo. Kearney will give his views and they are always sound, on the matter of handling the dried fruit product. Transportation and co-operation will be subjects of special interest. Mr. Naftzger will give the work of the Orange Growers' Association, and Hon. Alden Anderson, the work of the fresh fruit shippers, The California Fruit Distributors. There are very many other matters of importance to every fruit grower coming up, and as the program is printed in full elsewhere, it should be carefully read and every fruit grower should arrange to attend the convention.

Mr. Katzenstein, of the Earle Fruit Company, has, for three years, kept a record of the deciduous fruits shipped out of California. Here it is in carloads up to October 24, this year:

	1901	1902	1903
Cherries	105¾	244¾	211
Apricots	180¾	222	231¼
Peaches	1892¾	1778	1816¼
Plums	965	1479	1117½
Pears	1529¾	1975	1671½
Grapes	844½	856½	1486¾
Apples	393	238¼	322¼
Assorted	36½	19½	169½
Totals	5948	6813	7032

The San Francisco Chronicle asserts that imported olive oil is not adulterated to any extent till after it reaches this country—that it is the American who does most of the adulteration.

"ITS PENNY WISE"

Policy to set out a good tree, costing good money, and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe avenue, Los Angeles.

PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased so send you one

SAN DIMAS CITRUS NURSERIES San Dimas, Cal.

The Hoyt Tree Support

"The Propless Tree Prop."

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SAN DIMAS CITRUS NURSERIES
SAN DIMAS
DISTRIBUTOR FOR SO. CAL.

BY J. W. MILLS, ONTARIO, CAL.

DO ALMONDS PAY.

Editor Cultivator: I understand that almonds have paid fair returns at the Pomona station. Will you please tell me if it is so and give some particulars about them?—Subscriber, Ontario.

We can say that certain varieties of almonds have paid more than fair returns at the station during the time they have been old enough to bear, taking them on an average for eight or nine years. For a man who must depend on them for a living from year to year, we cannot recommend them as a reliable crop. For a man who has other resources, we believe the almond is a good thing to plant, provided locations not subject to severe late frosts can be secured. Contrary to the general ideas regarding almonds, water is essential to make fairly regular crops and plump nuts. Even if the rainfall is abundant, a heavy crop of nuts will make late irrigation necessary to properly fill the nuts and force out a good growth of bearing wood. The trees may mature a large crop for almonds of good quality, but if little growth is made you cannot expect a crop the following year which may have the exact conditions for setting another good crop. There are four reasons why summer irrigation is good for almonds and it is profitable where water is not too expensive. It makes a plumper and larger nut, gives the trees a chance to develop plenty of buds for the following year while the trees are still carrying a big crop, makes the fruit buds that are forming, better able to withstand the late spring frosts and increases the growth of the trees, thereby increasing the bearing surface. The general increased vigor of the trees brings about these results.

The above is not all theory, but as far as we can see, are positive results as compared with almond trees in some of our generally recognized almond growing districts where irigation of the almond has not been practiced. We know of almond trees that were planted in these districts; that are less than one-fourth the size of our trees. The former have equally as good conditions except that they have never been irrigated while ours have. The only difference in the con ditions is, that the almond groves in question are planted in solid blocks while we have but a single row which was planted in the center of an orchard, cherries on one side and oranges on the other. We attribute the difference in size to the extra water received by our almond trees during irrigations given to them and to the ad joining trees. Trees that produced from 50 to 100 pounds of nuts each, have made a growth of from six inches to two feet all over the tops of the trees. This would have been impossible on our land, had not the trees been irrigated.

As to the profits, our orchards show that during the yeasr 1896, '97 and '98, our almonds were a total failure. In 1898 an abundant crop was promised and the nuts were mostly over half grown when the thermometer registered 28 degrees on the 23rd of March. All the nuts dropped except a few in the tops of some of the trees. From the time the trees had been planted, four years till the present year, including nine bearing seasons (including the first season that the trees bloomed) the trees have brought in a gross income of $125 per acre, counting 70 trees to the acre. We have figured from prices as they are given in the market quota tions. We have one disadvantage, the fogs that come into the valley at night during the fall just as the nuts are opening, discolor the shells of the almonds, but otherwise, they are as fine as any almonds grown.

It is an object to secure varieties that bloom late. We recommend on this score, Hatch's Seedling No. 2, Languedock, Silver Shell, Lewelling's Prolific and Golden State. Hatch's No. 2 and Routier's Twin bloom nearly a month later than most varieties. The former is a paper shell with single kernels and a very desirable nut, except that it is rather small. Routier's Twin has double kernels and is therefore objectionable as that peculiarity makes ill shaped kernels.

Summing it all up, we can see where a man with a little capital can do well with almonds in the right location. During the nine years which we have taken into our estimates above, there were two years when the crop was totally ruined by frost. Two years the trees did not put out any bloom. This makes but five years in which crops were gathered, the other four years bringing no expense except the regular cultivation of the trees. It costs about $25 per acre to grow and put a crop of almonds in the sack. As with the walnut, the prices are always good and in fact, there have not been the fluctuations in almond prices that are recorded against the walnut. With the exception of prune rust, shot hole fungus and red spider, the almond is so far free from pests. These can be successfully combated by cheap and simple remedies. By the first of April, the grower will know just about what his crop will be.

* * *

A GOOD ALMOND.

Editor Cultivator: Under separate cover I send you a package of almonds that came from trees that were bought from the California Nursery Company in 1892. The trees have borne good crops ever since they came into bearing. Will you please tell me the name of them or tell me to which class they belong?—W. F. Hyde, Banning.

The almonds received look like Languedock except that they are a little smaller. They the without doubt Brier's Languedock. They are a good nut and belong to the soft shell class.

* * *

BLEACHING DRIED APRICOTS.

Editor Cultivator: I have two carloads of last year's dried apricots which have turned dark; what method is necessary to re-bleach them and about what will it cost?—E. A. C., Sespe.

There is no method that is satisfactory that is ready for publication or for practice. Prof. Geo. E. Colby of the Agricultural Department of the State University has worked out a method that bids fair to fill the bill, but it is not ready for use yet except as interested parties wish to work with him in the laboratory on samples. Full particulars can be had by calling on him in his laboratory at Berkeley.

* * *

SUGAR GUMS.

Editor Cultivator: Will you please tell me when is the proper time to plant sugar gum seed (E. Corynocalyx) in boxes so as to have them about six inches high at planting time?—Frank Shirley, Carlsbad.

The seed should be planted about the first or middle of September. Special care should be used in starting this variety as it seems much harder to raise from the seed than most varieties.

BY J. W. MILLS, ONTARIO, CAL.

LATE IRRIGATION OF ORANGE TREES.

It has been our idea that orange trees which have received copious irrigation during the early fall are not so well prepared to withstand severe frosts as those which are only moderately irrigated from then till after the rains set in. This is especially true of young trees that are liable to be injured with frost. A late growth will almost surely be cut back and the branches injured back of where the young growth starts. If young trees can be induced to skip the usual September growth, it will be much better for them. Withholding the water will have a tendency to do this. It requires time for the wood to harden after the fall growth is finished and when the trees grow too late, severe injury is the result in many locations. While we do not advocate allowing trees to suffer, yet we know in practice, that if an orange tree is allowed to show signs of wilting before irrigation time comes around, there is no perceptible injury done the trees. If this is allowed to go too far, however, application of water to a suffering tree will start it into new growth. It has been our experience that orange trees that are irrigated thoroughly and at long intervals, stand freezes better than those that are given a light irrigation each time and often. By a thorough irrigation we mean one that will send the water down three or four feet. This sort of an irrigation cannot be given in 12 hours on most soils.

A RARE CHANCE.

Nell—I was delighted to meet her at a bargain sale today.

Belle—I thought you detested her.

Nell—So I do; and during the crush I found a chance to give her a few good pokes on my own account.—Philadelphia Ledger.

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♠ ♠

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Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A. B. C. OF INSECTS
(Continued)

We have now considered all the orders on insects that pass through incomplete transformations, and the thrips besides, for although these appear to pass through incomplete transformations, it will be remembered that the pupa is inactive, which is never true of insects typical in this respect. All other insects are complete in their metamorphoses. The larva do not look at all like the mature insects. No one who has been somewhat of a student of insects or who had not been told would ever suspect that the larva just from the egg could be any relation to the parent insect that lays the egg.

* * *

Order, Coleoptera.—In this article, we shall give attention to the great order of beetles. The beetles are very characteristic. No one ought ever to mistake them for the insects of any other order. Yet I often get beetles for identification with the statement that a bug is sent for naming. Only last night I had a little beetle from one of our brightest fruit growers in which he made just this error. It was a "new bug" to him. The distinction between beetle and bug is marked and obvious. All beetles have jaws and bite and have the two pairs of palpi, mentioned when we described mouth parts, well in evidence. We have seen, on the other hand, that bugs have a sucking beak and never jaws for biting. The bug always sucks, the beetle always bites. Again, there are no palpi at all to the mouth parts of the bug. It is easy to see then, that by the use of poison, like Paris Green, we could soon rid ourselves of beetles while such applications are entirely useless fighting bugs.

The wings, also, are quite different. Indeed the wings of beetles are totally unlike those of any other order, though faintly reminding us of the locust and cricket order. The name of this order, Coleoptera, means "sheathed wings", as the functional wings, those used in flight, when at rest are snugly folded beneath two thick wing covers, which are called elytra. These elytra, then, protect the wings or sheath them, and hence the name, Coleoptera. When in repose, as just stated, the true wings are curiously folded beneath the wing cover or elytra. It is passing strange how the beetle can fold these wings so quickly and accurately. They are not only folded lengthwise, as is a fan when is closed up, but are also folded over from the end. I once had a model of a beetle in my possession and I was a long time learning how to fold it. We have, then, the characteristics of the beetles. Sheathed wings, biting or mandibulate mouth parts and complete transformations.

The larvae of beetles are usually called grubs. They are generally long or wormlike in form though in some cases they are considerably shortened. Most of them have three pairs of legs just back of the head, though a few, like the grubs of the snout beetles, or weevils, and some of the borers, are footless. It is while grubs that they do the most damage, though most species take food both as larvae and imago and not infrequently the food is the same in both stages. Thus the larva and imago of the lady bird beetle feed upon scale insects or aphids while the famous potato beetle of the east is a voracious feeder upon the potato leaf both as larva and imago.

Economically, beetles are both friends and enemies. While a great many do neither good nor harm. Some have been famous for many decades as destroyers, to wit, the grain weevil; while others, like the lady birds have long been known as decided friends. We have an example in the Vedalia, which has proved such a boon to Southern California. A large family of black beetles, slow of motion, often seen walking on the ground, are very common here in California,—the Tenebrionides—live upon decaying organic matter like buffalo chips, so we may say do neither good nor harm, except that they do good as scavengers.

The magnitude of this order is somewhat surprising. I think considerably over one hundred thousand are already named and in collections. It is almost as certain that taking the world all in all, the half of them has not yet been discovered. It is probable that there are as many beetles as there are insects of all other orders combined. Indeed I have seen the statement that this order outnumbered all other animals. As we should expect would be the case, where the numbers are so multitudinous, the structural variations and food habits are exceedingly varied.

For convenience in economic study we may divide beetles into two groups, those valuable and those harmful. Of the valuable ones, we can again divide them into those which are predacious, that is, those that feed upon and destroy other insects and those that are commercially important, which include the blister beetles of commerce. The destructive beetles may also be grouped into two divisions, those which feed upon our vegetables, trees and fruits, and those which destroy household goods.

(Continued)

* * *

SMALL LEAF BEETLE.

Mr. John Hoffman of Cucamonga sends me a small yellow beetle—he says "bug"—which he reports as quite common. He asks its name and wishes to know if it is harmful. This is one of the small leaf beetles. It is very common in Southern California and I think throughout the State, as we have it in our collection from as far north as San Francisco. Its name is Glyptina atriventris. As the last name implies, it is black on the under side of the body though yellow in all other parts. All these leaf beetles which are somewhat the shape of lady bird beetles though usually somewhat longer, feed on leaves and so are all harmful. The larvae are either short and thick as in the potato beetle of the East, or long and slender like wire worms in form. Some of them do much damage as grubs, feeding on the roots of plants. One of the worst enemies of the strawberry in the East is of this kind. So far as I know the one sent by Mr. Hoffman does no harm.

* * *

SPOTTED LEMONS.

W. J. Bower, National City, sends some lemons that are quite badly marred with grayish spots. The orchard is not neglected but it is in the best condition. This is another case of the spotted fruit. In this case, it is without doubt wholly due to insect injury. The sun scald does not show at all. This injury from insects seems more common this year than ever before, or else the orchards are watched more carefully. Frequently the sun has added greatly to the damage as indicated by the serious spotting on the sunny side of the tree. Very likely the phenomenally hot weather of October was the cause of this kind of unusual spotting. I think that in a few cases that I have seen fumigation and spraying may have still further deepened the scar.

* * *

BEAUTIFUL APPLES.

I have recently had the pleasure of testing some apples grown by Mr. R. Powell on the Perters and Evans ranch, fourteen miles east of Redlands, at an elevation of 3600 feet, in Yucaipe valley. Some of them, Rome Beauty and Winesap, were remarkably fine. One of them measured some fifteen inches in circumference and weighed 27 ounces. There were others very fine in appearance and flavor of which Mr. Powell wishes to know the name. I will take them to San Diego in hopes to learn the name of which I am not certain. All of the apples are remarkably beautiful. Mr. Powell asks if there is any danger of introducing the wooly aphis into an apple orchard by the simple visits of a fruit tree inspector or of any person examining an affected orchard and then driving directly to one unaffected. I should say that there was no danger in such a case. The wooly aphis is not at all likely to get on a person and the chance of its being carried in such a way would certainly be infinitesimal.

* * *

KATYDID'S EGGS.

Subscriber sends a leaf around the edge of which are some overlapping, brownish scales, sixteen of them, each of which has a little hole through it. He wishes to know whether they are eggs or insects. These are the common katydid's eggs. The little holes show that a chalcid fly has parasitized them. Thus not a single one would have hatched out. These katydids belong to the locust order and though they live on vegetation, they are too rare to do any serious harm. Their scarcity may be due to the little chalcid fly that so generally works upon them.

* * *

ASPARAGUS BLIGHT.

Mr. W. S. Corwin of Highland sends us some asparagus sprigs which are covered with black specks. He asks what the trouble is. I regret to say that this is the very destructive asparagus rust. Before these black spores show on the stems and leaves, the fungus threads or mycelia, have entered the stem and entirely disorganized the plants. These black bodies are the spores which are really the seed that will continue the mischief. This asparagus rust has become a very serious pest in Southern California. Our conditions seem to favor its spread and development. Mr. Smith, a government expert, is now giving his whole time to its study, and we hope he will discover a remedy that will bring relief, but as yet, we know of none. I am happy to state that Mr. Smith thinks that the exceedingly dry atmosphere of the Coachella valley will preclude the spread of this rust in that region. I hope he is right, but I greatly fear that he is not. I advise every one in the valley to be exceedingly careful not to introduce any asparagus from a region where this disease is present. Soaking the seed in bluestone might be tried but if I lived in the Coachella valley I should use every effort that no affected seed be brought in.

* * *

ALLIGATOR PEAR.

George E. Byron, Glendale, desires to know where he can get the alligator pear. My neighbor, Prof. Sumner, secured it of the Park Nursery Company, Pasadena. I think I have also seen it at the Los Angeles nurseries. It should be remembered that this is quite a tender tree. It dropped all its leaves here last winter, after the frost, but they came on again at once and the tree has made a fine growth this summer.

LEMON PEEL SCALE.

Mr. R., Los Angeles, is troubled with the little round white scale, Aspidiotus nerii. He sent me some last spring. It works not only on twig and leaf, but on the lemon and pomelo fruit. It is especially bad on the latter fruit. He feels anxious as it seems to be spreading in his orchard. A chalcid parasite has heretofore held this scale in check. The parasite should be introduced and in case it fails to do the work promptly, distillate spray should be used. As the insect is hatching continually, twice spraying would be necessary to exterminate it.

* * *

EUCALYPTUS.

"Subscriber" is grieved over a row of eucalyptus trees on his neighbor's ranch, very close to his line. He asks if there is any remedy in case his neighbor cannot be persuaded to remove them. I think not. Indeed, I am not sure but that it is better for both him and his neighbor to leave them. The people of Cucamonga have had more experience with these windbreaks than any other section that I know of and they are of one accord in favor of the eucalyptus. Mr. Frank Palmer, on the Richards estate, is one of our experienced orchardists. He does not cut the fine eucalypts that border that estate. He does, however, fertilize and water so generously that the orange trees next to the eucalypts show very little injury from the presence of the large trees. I am not sure but "Subscriber" would be wise to surround his own place with a similar row of gums.

* * *

ATTENDANCE AT CLUBS.

There is a strange and inexplicable apathy on the part of our ranchers regarding the clubs. At our last club meeting at Claremont we had an exceedingly interesting and valuable program. Prof. Baker gave a most valuable talk on humbugs, and Commissioner Pease gave us of his wise and wide experience regarding fighting scale insects. One would suppose in view of the importance of this last matter, every orchardist for miles around would have flocked to this meeting. Yet there were only about forty present where there should have been one hundred and forty. What can be done to arouse the people to a right consideration of their opportunities in this direction? We surely need some pomological Elijah to thunder forth the value and importance of just such schools as these excellent club programs furnish. No wonder our orchards do not reach to perfection. No wonder trees show variegated leaf and that fruit is smutty and does not stand up well in shipment. No wonder the soil is often depleted and that the trees languish for water properly applied. No wonder that some of the ranchers get returns in red ink, while others have pocket books that are swollen to repletion as the returns come in. I am free to say that if our people would rise to the occasion, form clubs in every neighborhood, give them their best thought, study and energy that we could raise the income from our orchards twenty-five per cent in a single year. A comparison of such orchards as that of Teague, Chapman and Leffingwell with the red ink orchards shows at once how tremendously important are these suggestions to our Southern California orchardists.

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Coast News and Notes

BY R. A. DAGUE, COR. SUTTER AND SANSOME STS., SAN FRANCISCO

HORTICULTURE.

More than half of the fruit trees of Santa Clara county are prunes.

Orange pickers near Springville, Tulare county, are being paid $1.75 per day.

A great many dried prunes are still held for higher prices in Santa Clara county.

A large force of women and girls are engaged now packing oranges at Exeter, Tulare county.

The Oregon crop of prunes is estimated at 1000 carloads. Prunes bring in New York, about two and three-fourths cents.

The California fruit canners' plant at Santa Rosa, this season, put up 3,672,576 cans of berries, fruits and tomatoes.

A. Flosbach, near Edendale, has ten acres in prunes. Mr. Flosbach raised on these ten acres, 30 tons of dried fruit, worth $2500.

Orange picking is now in full blast in the Lindsay district, Tulare county, and three large packing houses are now busy.

At this writing the California Fruit Distributors have, this season, shipped east 7418 carloads of fruit, as against 4069 on an even date last year.

The Board of Supervisors of Tulare county has abolished the board of horticultural commissioners on the ground that such officers were not necessary.

The realty syndicate, of Oakland, will employ twenty-five men for three months, to plant out cyprus, pine and blue gum trees. They will plant 250,000.

The Tulare Register says the orange growers of that county are complaining that oranges are ripening slowly. A few frosts are needed to hurry up ripening.

Quite recently two carloads of fresh California fruit were sold at auction in New York. One brought $1535 and the other $1328. At the same time, in carload lots, fruit sold in Chicago, on an average of $1300.

H. D. Curtis, of Los Gatos, has shipped this season, at this writing, about 1,600,000 pounds of dried fruits. He says the foreign demands have been heavy. About three-quarters of what he shipped went abroad.

The San Jose Mercury says, a prune orchard near that city, of 100 acres, produced this year 448 tons of green fruit, or 228 tons of dried fruit. The crop sold for more than $15,000. The crop netted the owner $100 per acre.

Los Angeles capitalists have purchased a large tract of land at Geyserville, and will subdivide it into small vineyards. A tourist hotel will be erected and the place made both a summer and winter resort.

Vacaville, this year, shipped 1143 cars of fruit, as against 844 last season. That was an increase of 299 cars. This was the most prosperous season to the growers of that section they ever enjoyed.

It is expected from 300 to 500 fruit men will attend the State Convention of Fruit Growers at Fresno. Governor Pardee and other noted Californians will be present, and many valuable papers on fruit raising will be read.

The Sonoma steamer was the first to carry away a shipment of this year's crop of citrus fruits from San Francisco. She sailed a few days ago for the Antipodes, with 100 tons of lemons, 155 tons of oranges and other merchandise.

Our exporters of prunes are having trouble to get prompt delivery of their goods. In some instances the fruit is on the way 100 and 110 days between New York and Bordeaux, and is wormy and spoiled when it reaches its destination.

John Rock, of the California Nursery, of Niles, says fortunes await the party who will raise the tree which produces cork. Our cork now comes chiefly from Spain and Portugal, but Mr. Rock is certain it can be easily grown in California. He has in his nursery some fine cork trees.

According to the Los Angeles Times the yield of citrus fruits for 1903-4, will be from 25 to 50 per cent greater than last year. The prospective crop is variously estimated at from 28,000 to 35,000 carloads. The weather of December and January will have great influence on the yield.

Prof. Albert Kaebelle, the famous government entomologist, recently came to the United States from Hawaii, to look for a parasite to destroy a pernicious insect that is seriously damaging the sugar cane in Hawaii. He found what he wanted in Ohio, and has shipped to Honolulu 2000 of the bugs.

Lieut. Governor Alden Anderson, manager of the California Fruit Distributors, at Sacramento, says prices for dried fruit are too low, but we shall see a great improvement during the first of the year. This year's crop of prunes and peaches are only 60 per cent and apricots and pears are only 30 per cent of last year's crop. The carry-over stock has been sold; hence, prices of dried fruits must soon advance.

Mr. Van Gelder, a prominent orchardist of Acampo, who handles dried fruits extensively, said to a representative of the Cultivator that, notwithstanding newspaper reports about the prosperity of the California fruit growers, yet this year dried fruits are ridiculously cheap. He has urged that growers co-operate, build a common ware house, grade their fruit and hold it till they can sell at a remunerative price. "But," said he, "the average farmer is the last man to comprehend the advantages of co-operation."

Samuel Johnstone, of San Francisco, recently took several trips into the country in different directions. He found great quantities of apples rotting on the ground, and grapes unpicked. The apple growers said: "The box combine has raised the price of boxes so high and the commission men cut us so deep we cannot market our fruit." The grape growers said: "The wine combine want all the profit, so it does not pay us to pick and haul the fruit." And yet, the consumers in this city are charged from 4 to 10 cents per pound for apples, and grapes at from $60 to $120 per ton.

LIVE STOCK.

The Napa Journal is authority for the statement that a Petaluma poultry raiser has succeeded in breeding a featherless fowl.

The cattle quarantine in force in Monterey county, will be declared off the beginning of 1904, by order of State Veterinarian C. H. Blemer.

Millard Saunders, trainer of Lou Dillon, has changed his intention. He will take the mare to Memphis, Tenn., to winter instead of Santa Rosa.

A "turkey train" carrying 20,000 dressed turkeys weighing ten tons, was run into San Francisco from the Sacramento valley to supply the demand for those fowls for Thanksgiving.

Henry W. Lawrence, of San Francisco, has asked the State University to assist him in introducing in this state new food for sheep. The shrub is known as "ceanothus integgerrimus."

The late winds rattled the berries from the umbrella trees on the farm of A. E. Becker, near Wasco. They were eaten by his hogs, six of which died in a few hours. On opening the dead swine, the berries were found in indigestible wads.

Judge B. F. Emery, of Santa Rosa, representing the poultry association of

Citrus Tree Bargains
We have several thousand fine orange trees, leading sorts, for sale at a special rate if taken before Dec. 1st. Headquarters for trees on Trifoliata or frost resistant root.
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Largest **CITRUS SEEDLING** Nurseries in the state
We make a specialty of growing first-class citrus seedlings and have in our seed beds for next season's planting the best and most complete stock we have ever offered, including the following varieties: Sweet Orange, Florida Sour Orange, Florida Rough Lemon, Pomelo, and the hardy frostproof Citrus Trifoliata, all having their points of advantage under different conditions, as budding stocks. All our trees are home grown; no "White Fly" importations from Florida. We also have a stock of Valencia and Navel 1-yr. buds, English Walnuts, Loquats, Shade Trees, Ornamentals, Cabbage Plants, etc. For further information and prices, write us.
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Contract now for spring delivery Washington Navel & Valencia Late trees also grape fruit or orange seedbed plants for nursery
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CITRUS AND DECIDUOUS FRUITS
DIFFERENT VARIETIES OF EUCALYPTUS
ORNAMENTAL VINES, ROSES
and everything for the orchard and garden.
Ontario, Cal.

THE Vernon Nursery
We will offer 100,000 deciduous fruit trees for sale next season
If you are thinking of planting it will pay you to give us a call before placing your order
We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums
A day spent looking over our nursery will be money well invested
A. YARNELL,
Station K, **LOS ANGELES, Cal.**

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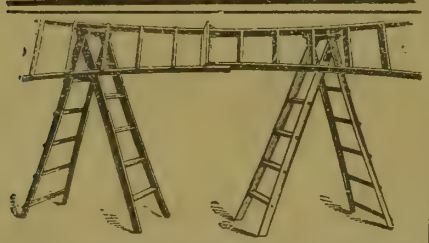

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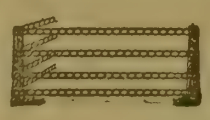

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The separate strand features make Truss and Cable Fencing much more desirable than woven wire fences.

Easier and cheaper to put up.

Easier and cheaper to keep in repair.

Lasts twice as long.

Nuf sed.

Write for descriptive circular.

Pacific Hardware & Steel Co.

401 Mission Street, San Francisco.

Coast News and Notes

CONTINUED

Sonoma county, spent a few days recently in San Francisco and Oakland, investigating the egg business. He found that retailers of those cities were getting 50 to 60 cents per dozen, while poultry men of his county received but 38 and 40 cents.

MISCELLANEOUS.

A Farmers' Institute will be held at Tulare Dec. 2nd and 3rd.

Santa Rosa and Petaluma will be connected by an electric railroad.

L. A. Walker, of Tulare county, extracted 500 pounds of honey this season, from three stands of bees.

The Santa Fe has just received an addition to their rolling stock; 26 new Pullman cars, to run between California and Chicago.

The Board of Supervisors of Santa Clara county has purchased fifteen standard voting machines, to be delivered March 1, 1904.

The contract has been let for the steel rails with which to construct the Bakersfield, Santa Paula, Ventura and Hueneme railway.

The St. Helena Star has had presented to it a chysanthemum plant, two stems of which are eleven feet long, crowned by immense blossoms.

A well attended mass meeting of farmers and business men was held at Gridley the 14th, to discuss the subject of irrigation.

The Methodists, at their quarterly conference held last week, at Napa, by resolution, denounced the wine business in that county, as "a curse to the valley and a foe to the church."

The latest report of President Harriman shows that the total gross receipts of the Southern Pacific Company from July 1 to Oct. 1, this year, was $23,840,062, or nearly $8,000,000 per month.

Up to this time the law passed by the last California legislature to provide that a free market should be maintained on State property in San Francisco, has been disregarded.

Minnesota has 681 creameries. They turn out 75,000,000 pounds of butter yearly, which sells for $17,500,000. The creameries use the milk of 420,000 cows.

The San Jose scale has been discovered in American apples sent to Germany, and the authorities are taking steps to prevent its spread in that country.

The Southern Pacific Co. is figuring on the proposition to join an equipment company with a capital of $5,000,000, to buy up all the refrigerator cars and other special freight cars, and if the private owners decline to sell to build their own. About 1300 private freight cars are now engaged in hauling freight to and from California.

AGRICULTURE.

So far, about 40 carloads of walnuts have this season been shipped out of the Fullerton district.

Orders for seeds from the East are pouring into Santa Clara and heavy shipments are being made.

California annually produces 10,165,000 pounds of hops. So far, Alamena county raises the finest grown in the state.

A. L. Martinelli, of Napa county, gathered eleven tons of tomatoes on his place this year and sold them at from eight to ten dollars per ton.

Dr. G. W. Shaw, of the agricultural department of the State University, asserts that beet sugar is just as good for canning and preserving fruits as sugar made from cane.

Charles Von Graffen, of Sonoma, raised this year on new ground, a fine crop of potatoes. Some of them measured 12 inches in length and five inches in circumference.

Much loss of life is reported in northern Georgia, due to eating cabbage with a small, poisonous worm in it. It is something new to the experts who have examined it.

Forty square miles of vineyard lands in Fresno county are to be underdrained by laying down tiles. It will cost the owners $250,000, and bonds will be issued to raise the necessary money.

There will be a conference between the grape growers and the wine manufacturers, at Healdsburg, Nov. 27. The wine men are proposing that the growers contract to deliver grapes for the next three years to the wine men at $20 per ton.

The U. S. Department of Agriculture, in an official report for November, states that the indications are that the world will, this season, produce 4,342,800 tons of cane sugar, and 6,083,000 tons of beet sugar. Total, 10,425,800 tons.

Geo. C. Husmann, U. S. Viticulturist, sent to California to establish experiment stations, has established nine at points heretofore mentioned is the Cultivato.r At Cucamonga especial tests will be made to ascertain what can be successfully grown under desert conditions.

Alexander McAdie makes the following summary of the weather and crops for the week ending November 23:

The weather during the week was clear and warm in the south, and generally cloudy and warm in the northern and central portions. Generous rains fell over the north and central portions, and light showers in the southern portions of the San Joaquin valley and south coast district. The rainfall from San Francisco Bay northward averaged from two to three inches. Fogs occurred along the central coast. Heavy frosts occurred in some districts on the 16th, but caused no damage.

The soil in the Sacramento valley, the Bay section and northern portion of the San Joaquin valley is in excellent condition, and rapid progress will be made in plowing and seeding. In the north coast section the ground is in many places too wet for plowing. The seasonal precipitation in the central and northern portions of the state is nearly normal, but in the southern portion of the San Joaquin valley, the south coast sections and Southern California it is below the normal. All summer crops are under cover. Early sown grain is coming up, and green feed will soon be abundant in the northern portion of the state.

Southern California oranges are in good condition and promise a fine, large crop. In the Sacramento and San Joaquin valley districts oranges are ripening rapidly and shipments continue. The yield and quality are reported excellent. Olives are doing well. Dried fruits are being shipped to the packing houses in large quantities. The last carload of walnuts was shipped from Anaheim on the 19th.

The Chamber of Commerce of Los Angeles will send to the St. Louis Fair 41 books weighing two tons. These books contain the names of several hundred thousand visitors who registered in the books.

Arizona Everbearing Strawberry Plants

Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

STRAWBERRY PLANTS

I have for sale several thousand Arizona Everbearing Strawberry Plants. Very thrifty.

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Glendale Brandywines, some raised from Imported Michigan Plants, others from Griswold's Imbroved Brandywines. Stating how many you wish, for terms address

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Blackberry, Raspberry, Loganberry, Strawberry. Full line of Nursery Stock.

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Lady Thompson, Brandywine, Excelsior. Guaranteed Eastern Stock. Also Gray's Dewberries and Blackberries. From this A1 stock invirgin soil you will get plants that will give, you the highest results. Write today.

J. PARSONS - Gardena, Cal.

BERRY PLANTS

Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.

For descriptive list address

W. J. EMBREE,

Rural Box 61, El Monte, Los Angeles Co., Cal

150,000 Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

F. P. Baldosser, Covina

ONE MILLION

Gardena Dewberry

PLANTS FOR SALE

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SAVE MONEY!

Walker's Champion Tree Prop Bracket has been reduced to $16 per 1000 everywhere. Ask your hardware dealer for it. If ordered direct, send cash, and freight will be prepaid. Now is your time to buy the best Tree Bracket in the market.

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THE EMERSON DISC PLOW

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This plow is better constructed and has more adjustments and is adapted to a greater variety of soils than any other disc plow.

Has steel beams, adjustments are simple, is ball bearing, and will turn square to right or left.

Descriptive matter mailed on application.

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200 N. Los Angeles St.

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Fruit Growers' Convention.

Programme of the Twenty-ninth California State Fruit Growers' Convention, at Fresno, December 8th to 11th, 1903, under the auspices of the State Horticultural Commission.

Tuesday, December 8th, 9:30 A. M.—Address of Welcome, L. O. Stephens, Mayor of Fresno; Address, Governor Geo. C. Pardee; Opening Address, Hon. Elwood Cooper; The Farmer as a Taxpayer, Hon. John Tuohy; Discussion.

Tuesday Afternoon, 1:30 o'clock.—Transportation and Marketing.—Fruit Markets and Marketing, M. V. Hartranft; What the Post-Offices Might Do for the Fruit Grower, Edwd. Berwick; The St. Louis Exposition, J. A. Filcher; Report of the Committee on Transportation, R. D. Stephens, Chmn; Discussion.

Tuesday Evening, 7:30 o'clock.—Co-operation.—Address, A. H. Naftzger; The Work of the California Fruit Distributors, Hon. Alden Anderson; Co-operation in the Marketing of Cured Fruits, M. Theo. Kearney; Possible and Impossible Cooperation, A. R. Sprague; Co-operation, C. D. Harvey; "The Pact", a protective Organization, Martin Aostoneel.

Wednesday, Dec. 9th, 9:30 A. M.—Raisins and Wine Grapes.—Address, Hon. Chester H. Rowell; The California Vine Disease, Prof. Newton B. Pierce; The Wine Industry and Its Future Prospects, Percy T. Morgan; The Raisin Outlook, Address, T. C. White; The Raisin Grape, Commercially, W. M. Griffen; Discussion.

Wednesday Afternoon.—Trip around Fresno on the cars of the San Joaquin Power and Electric Company.

Wednesday Evening, 7:30 o'clock.—Raisin and Wine Grapes, continued.—The Raisin Grape, Robert Root; Improvements in the Bench Grafting of Resistant Stock, Prof. E. H. Twight; Handling and Marketing the Raisin Crop, D. Dallison; The Growers' Co-operative Agency, A. T. J. Reynolds; Discussion.

Thursday, Dec. 10th, 9:30 A. M.—Insect Pests and Tree Diseases.—Enlarged Scope of the Agricultural Department of the University, Prof. Benjamin Ide Wheeler; Friendly Insects, Alex. Craw; Insects of the Year, Edwd. M. Ehrhorn; Our Scale Pests, Prof. A. J. Cook; New Observations on the Codlin Moth, Prof. C. W. Wentworth; Spraying Operations in the Pajaro Valley, Prof. Warren T. Clarke; Discussion.

Thursday Afternoon, 1:30 o'clock.—Ladies' Session.—Training the Children in Rural Improvement Ideas, Mrs. A. Harris; the Flower Garden, Mrs. Frank E. Cook; The Country Cemetery, Mrs. May S. McNulty; Ranch Labor, Field and House, Mrs. Maud Akin; Good Roads, Mrs. Laura Rhea; Cooperation and Organization, Mrs. E. Shafter-Howard; Poultry, Miss Gertrude Wilson; Discussion.

Thursday Evening, 7:30 o'clock.—Reception at Armory Hall tendered to the delegates of the Convention by the Ladies' Parlor Lecture Club.

Friday, Dec. 11th, 9:30 A. M.—Extension and Improvement of Horticulture.—Needed Horticultural Legislation. Hon. A. M. Drew; Future of the Fig Industry in California, Geo. C. Roeding; The Walnut and its Commercial Prospects, Frank E. Kellogg; Citrus Fruits in the Northern Counties, Major C. J. Berry; Report of the Committee on Labor, H. P. Stabler, Chairman; Discussion.

Friday Afternoon, 1:30 o'clock.—The Fruit Grower and Orchard Help, H. P. Stabler; How Shall We Preserve the Fertility of Our Orchards, A. D. Bishop; Fertilization, Prof. S. M. Woodbridge; Discussion.

The Watsonville Pajaronian says the apple crop in that valley has been marketed much faster this fall than usual and the season is rapidly drawing to a close. About two more weeks will clean out the packing house stocks pretty well, but scattering shipments will be made from time to time for several weeks yet. The shipments of fruit from Pajaro valley this season will be considerably heavier than in 1902, and prices have been very satisfactory to the orchardists.

C. H. SESSIONS, ASSOCIATE EDITOR

MILK FEVER.

I noted the remarks of your veterinary editor in the last Cultivator, on milk fever. I have decided ideas of my own on that subject. It may seem like assurance to offer them to your readers. But I have been a student of physiology and more or less of pathology all my life, and I have had a very wide experience with cattle. My father had a first class milk herd in the care of which I had my apprenticeship. I thus formed early, a fondness for cattle and the care of them, and became, almost from my very childhood, a careful student of cattle. My father's herd were fine milkers, he was a good feeder and I hardly need say that milk fever was not rare in our herd. As soon as I commenced life for myself, I longed for a farm and cattle. I soon had both and from that day to this, have never been without cattle worthy of the blue ribbon. I, like my father, would only have the best; like him, I am also a good feeder. I have had two serious cases of milk fever. I believe I know the cause of this dread disease. I do not accept Schmidt's theory. If the cause was poisonous milk, would it not be the calf rather than the cow that would suffer?

This is my view. Parturition is a strain upon the cow as upon all the higher animals. The springing of the milk just after parturition is another thing which must come with a severe shock. If the cow is a great milker, giving, as cows often do, fifty pounds of milk a day, then this shock must always come with menace. Again, the good feeder, full of kindness for his cow, not knowing of the danger, gives liberal feed and abundance of water, possibly very cold, just after this trying ordeal has past. This calls for great energy of digestion, enduces greater milk flow, and hence the third threat of evil. The poor cow could stand, one, possibly two of these strains upon her vitality, but the three are too much and she goes down with the terrible puerperal fever. In case a cow is a great milker, there is always danger. We can only work to minimize it. Parturition can be made easier by having the cow in good heart as the time comes. Thus, while I would not over-feed, I would certainly not have the cow losing in strength at this time. As soon as symptoms of calving appear, I would largely shut off the feed, and give water sparingly and that, not cold. A little bran mash and a handful of good hay is enough. Prolong this fast for two or three days, until the danger is over. Milk fever will usually come the second day, and almost always within three days, so far as I have observed. This fasting make little call upon the digestive energy and in not stimulating milk flow, prevents against shock from that cause. I believe that in following out these suggestions, milk fever will rarely threaten even the best cows. We know that prolonged labor, not infrequently results in puerperal fever in our own kind. We see the same reasoning will account for this. In the two cases of milk fever which visited me, explanation is easy on the above hypothesis. I am happy to say that both my cows recovered, although both were terribly sick.—A. J. Cook.

POINTS OF A GOOD HORSE.

The muscular fiber must be fine and dense, with well-rounded development in every way.

The size of horses does not indicate strength and constitution. Quality throughout and firmness of bone are more important than size.

A horse with oblique parterns is less liable to concussion and lameness in the joints of the legs. The body must be well-rounded but deep, not flat ribbed.

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Cream Separators — Milk Cans
Combined Churns — Milk Bottles
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Engines & Boilers — Milk Coolers
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Creamery and Dairy Supplies and Machinery of all Styles and Sizes

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SAN FRANCISCO PORTLAND

Address all communications to DR. H. D. FENIMORE, Veterinary Surgeon, 642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

HORSES THIN IN FLESH.

Editor Cultivator.—Can you tell me why I can not fatten my horses. I feed them heavily of rolled barley and barley hay, but they will not get flesh. What is the reason?—H. W. Hager.

The discription given is not sufficient to make diagnosis from.

* * *

WIND SUCKER.

Editor Cultivator.—I have a horse eight years old that sucks wind. He opens his mouth, throws back his head and gulps in wind. He does not take hold of things as a horse does with cribs. Please state the cause of this act and the treatment to stop it.

This is a habit that is very difficult to break in the horse. Some people use a strap around the neck, tight enough to prevent the horse from extending the muscle of the neck sufficient to perform the act.

The state dairy and fruit commissions of Pennsylvania prosecuted 621 violators of the pure food laws of that state during October last. There is a golden opportunity for that sort of work right here in California.

If one thinks he knows it all he is in a fair way to be called dull.

MINNEWAWA STOCK FARM

Offers For Sale TWO HOLSTEIN BULLS Now in Use in Herd

LEGAL TENDER BLANCO, 26943
Mostly black. Dropped January 1, 1900
SIRE—Nero Blanco, 25002. His eldest daughter, Eva Blanco, 2 years old, has an official record of 14 lbs.. 5 oz. in 7 days.
DAM—Legal Tender, 42315. Private record of 379 lbs. of butter in a year.

SIMONDA DE KOL
Registry applied for. Dropped Nov. 12, 1900. White with black tips to ears and small spots.
SIRE—Ignaro De Kol, 23533. Sire, Johanna 5th, Paul De Kol. Dam, Cascade Princess, official record 17 lbs. in 7 days.
DAM—Mamie Clifden Judith, 43191. Private record of 7½ lbs. in 30 days. Average test, 4.2.

Mrs. M. D. E. Sherman - Fresno, Cal.

Don't Blame the Cow

you probably need a U.S.

CREAM SEPARATOR

If you keep cows and have no U. S. Separator you are losing money that might be saved. Without a U. S. you cannot get all the cream, besides the product of the U. S. commands a higher price. Order at once, stop your losses and increase your profits.

For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha. Address all letters to Bellows Falls, Vt.

Write for illustrated catalogues

Vermont Farm Machine Co., Bellows Falls, Vt.

341

Importing Fancy Stock.

One of the favorable signs of continued confidence in the good times we are enjoying, is to be found in the effort farmers and dairymen are making to secure imported stock. A farmer from near Pomona, told us this week, of his purchase of a pure blood Jersey bull to head his herd of young stock which is about three-fourths grade.

Another farmer tells us he has ordered from the East a thoroughbred Chester White boar, from which he expects to breed up a choice herd of sows.

These are good indications of the interest being felt in Calfornia to advance the grade of stock.

As has frequently been said in the Cultivator's columns, there is no economy in keeping low grade stock. There isn't any satisfaction in the business, in the first place, and in the second place it costs as much to keep a scrub as a pure blood. Then when a farmer comes to sell his stock he realizes the importance of possessing fine stock in preference to the common kind. The Cultivator would be glad to see every farmer in this state possess himself of a pure blood animal or two, because, we know, that in a comparatively brief period, the country will be well on its way toward an entirely different breed of cattle and hogs from that found on our farms today.

NEW AND DANGEROUS DISEASE.

About a year ago a very dangerous disease broke out on the Minnesota Experimental Farm, which has since proved a dangerous and very ugly thing to handle. It has spread out in the state and over into Iowa, and is causing distress among cattle men generally, in the two mentioned states. The cattle act as though they were suffering from cerebro-spinal meningitis. Dr. Reynolds, in Bulletin No. 82, of the Minnesota experiment station, calls that disease Haemorrhagic Septicalmia, and states that this name probably covers a number of diseases produced by the same or similar germs.

In regard to the symptoms, Dr. Reynolds, in Bulletin No. 82, says:

"As a rule the disease appears suddenly; the case develops very rapidly and terminates fatally. The antimortem symptoms are very unsatisfactory from a diagnostic standpoint. The postmortem symptoms are definite and as a rule easily recognized and consist of more or less extensive hemorrhages, which are sharply defined when they appear upon the surfaces of the vicera and serous membranes."

While no known remedy is at present at hand for this disease, it is hoped that new light has been obtained of which use may be made in the future.

THE PAYING DAIRY COW.

There are two great principles in dairying that must be strictly adhered to, or failure is sure to follow. First, we must have a cow suitable for our business and, second—and of no less importance, great attention should be paid to her feed and care. We may have the best of cows, but without proper feed and attention, failure is sure to follow, while with poor and inferior stock, no amount of feed and care will return any profit.

The paying dairy cow is the one that makes money for you, and unless you have a choice of breeds, it matters not whether she be a Jersey, producing milk of high quality, or a Holstein, of large quantity, or a high grade of any other breed, so long as she gives a large return above the cost of her keeping, she is a good dairy cow.—The Cotton Bale.

A NEW MILK PRODUCT.

Galalith is the name of a new substance made from skimmed milk by treating the casein with metallic salts and soaps, and finally, with formaldehyde. It is as hard as celluloid, takes a fine polish, is odorless and is less inflamable than the gun cotton and camphor combination. At the recent Hygienic Milk Supply exposition in Hamburg there were shown toilet articles, chess figures and even tables made of the new substance. These had the appearance of marble, as galalith takes kindly to various coloring processes, but were far lighter in weight. As an article of commerce it is destined, so its sponsors believe, to become widely used and correspondingly reasonable in cost.

CHEESE MAKING ON THE FARM.

Dairying is considered today one of the most prosperous and highly developed forms of farming, and no branch of agriculture has made greater progress during the last generation. In 1860 the price of cheese was 10 cents a pound, and farmers were afraid to engage in such an industry, believing over-production would result. In 1850 cheese exports were 10,000,000 pounds. Present cheese exports are not large owing to the foreign market having been ruined through the shipment of "filled" cheese by unscrupulous exporters; but the annual production and consumption of cheese, as are likewise those of butter and milk, are constantly increasing.—Tennessee Farmer.

THE CREAM SEPARATOR.

The cream separator is the up-to-date means of separating cream from milk, doing quickly, cheaply and perfectly what is otherwise done with much labor and trouble, and more or less imperfectly in the various older ways.

The perfect cream separator is an extremely well constructed piece of machinery and its operation is simplicity itself. This work is done as soon as possible after milking, the process is continuous. The principle is centrifugal force, produced by very rapid revolution of the separating vessel.

The advantages of the cream separator over older methods have come to be well known to almost every one keeping cows or separating cream from milk. But many have yet to learn the full extent of the dollars-and-cents benefits of a separator in their own individual case.

First of all, with the perfect cream separator comes the complete separation and recovery of all the fat in the milk, which is not possible in any other way. From 10 per cent. to 50 per cent. goes to waste by all setting or dilution methods.

Then, as the separation takes place soon after milking, the cream is sweet, of even thickness, without taint or odor, and it may be churned into a butter worth from 2 to 10c more per pound.

Then there is the sweet, fresh, skim-milk for stock and other feeding purposes, worth much more than the milk skimmed in the old way, which is frequently more harmful than nutritious.

Then, there is the saving of setting and handling of milk in the old way, of skimming, of ice and water and warming of skim-milk, and of all the work and endless drudgery which the old way involves for everyone.

All this means time and money, better product and more of it, with less work and less trouble. Thousands of tests prove it to mean an average of at least $10 per cow every year. It is easy to figure what that may mean to you.—DeLaval Magazine.

DECLINING CATTLE BUSINESS.

The Cultivator is pained to learn of the failure of Mr. Sotham, for many years a leading breeder of White-faced cattle in the Middle-West. Mr. Sotham is an example of the men who have been plunging in the fine stock business for the past six years.

The failures of cattle breeders in the past three months, have been frequent, and their losses heavy; so much so as to set people thinking and asking the question, "What's the matter with the fine stock business?" There is nothing the matter with the business, as a business, but there is a good deal the matter with men who have purchased extremely high priced cattle on a falling market. We know breeders who have paid $2000 for a yearling calf which was not worth more than $250, and the get of which would not bring more than $200.

That was not business, still it was frequently done. The result has been, where breeders "plunged," overbought, and bought without discretion they have failed. What else could be expected? The same rule will apply everywhere in business. It certainly will not make an exception of the cattle business. Another thing will have to be done, owners of fine stock will have to get down where buyers can pay reasonable prices for their stuff. Prices have been exorbitant in some lines of fine stock, and the result has been that buyers have been frightened and would not buy even though they needed stock.

Discussing Mr. Sotham's failure, Farm, Stock and Home, makes a good point where it says that "the business of breeding fine stock has became burdensome from watered stock—over inflated prices."

"A purely fictitious value has been put upon live stock as upon paper stock, and in the last analysis disaster must result. A thousand or two dollars for a yearling calf is as glaring an example of stock-watering as Morgan was ever guilty of. The consumer of the products of an over-capitalized factory cannot afford to pay a price for them that will guarantee interest and dividends on the fictitious capital. Nor can the ordinary breeder of cattle afford to pay a price for fancy specimens that will pay interest and dividends on the woefully inflated values of whole herds of "pure breds." The fashion of putting prices on animals

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out of all proportion to cost of production or utility in the breeding pen is a bad one, and the sooner it "goes out," the better for all cattlemen.

The direct burden this fashion imposes upon extensive breeders and dealers, like Mr. Sotham, is in the form of an enormous capital, that in almost every case must be borrowed, largely, and thus adds an immense interest account to a business that is not remunerative enough to stand the strain. A thousand dollar loan on an animal that the ordinary farmer breeder cannot afford to pay more than $250 for, will very soon devour the animal, leaving its owner nothing but his debt.

Another cause of failure is the tremendous cost of keeping up these destructive fictitious values. Breeders buying from each other, or assuming to, at absurdly high prices, relatively to intrinsic value for the sole purpose of making less costly, but still absurdly high-priced animals seem cheap to the farmer breeder, is an expensive, unworthy and illegitimate practice, that will inevitably react. The blooded cattle business must be reformed as to methods, and the failures of those extensively engaged in it demonstrates the necessity of reform, and it can't come too quickly for the good of the cattle industry in general."

Again we say, there is nothing wrong with the cattle business, it is a legitimate and profitable one, if conducted on sound principles, but like all other kinds of business, it will not stand "plunging," nor over inflation.

COST OF CATTLE DECLINE.

A Texas authority, said to be conservative and reliable, estimates the shirkage in the value of beef cattle in that state during the year to be $21,000,000, at the very least. The other states and territories—New Mexico, Arizona, the Dakotas, Kansas, Nebraska, Nevada, Wyoming, Colorado and Idaho—with their enormous range areas and myriads of cattle, are also victims of the decline, and their losses added to that of Texas, and all the other states with their smaller but more numerous operators, make a grand total that would be dizzying if it could be comprehended. But a little thing like this does not change the tune of the universal and unparalleled prosperity tooters, nor move them to ring down the curtain on the play that has been a farce to millions of people from the beginning.—Farm and Home.

The decline in the price of cattle should not discourage farmers, nor dissuade them from buying, in reasonable quantities, pure bred stock —especially male animals to head their herds. It is no criterion to judge the cattle business by, to see men who have plunged, go to the bottom. It is simply leveling conditions.

Some farmers keep their barns in such a filthy condition that it is surprising to see how they can produce cream and make butter that will bring any price. This is the cause of the low price of some butter, cream and cheese. The customers want quality instead of quantity, and they are willing to pay a fancy price for a good article.—A. A. Eastman.

FEEDING HOGS.

Nothing has yet been found which fills the bill so well as a ration of which the basis is skimmilk in conjunction with finely-ground oats or barley and shorts. All these are flesh formers, says Up-to-Date Farming. Barley is a fat former. A very satisfactory mixture consists of finely ground oats 5 parts, finely ground barley 2 parts, shorts 2 parts, and oil meal 1 part.

Provide private runs for the pigs, in which place a shallow trough containing a gruel made of skimmilk or buttermilk and the meal mixture. Start with shorts, adding the coarser meals as the pigs become older. No grain should be fed until the pigs are three months old. By this treatment, coupled with plenty of exercise, they develop good, healthy frames.

In weaning the common method is to shut the pigs up and let the sows go out in the pasture. Then the music begins. Better have a feeding floor adjoining the hog house. The feeding can be done here. Shut the sows in on this floor and allow the pigs every access to them. Feed the sows all the oats they can eat; give them all the water they can drink. The pigs are fed all they can eat. They go in and can get to the sows. By the end of a week the sows will be dry, and the pigs so disgusted going in and finding nothing that they'll just quit. You will find by the end of the week not a pig will go near its mother. You can turn the sows right out to pasture with the pigs and there is no more trouble. This is not a theory, for it is a very easy thing to dry a sow by feeding nothing but oats on a dry floor, and letting her have plenty of water.

MORE SHEEP NEEDED.

The Iown Homestead dciessussNs The Iown Homestead idscusses intelligently, we think, the question why more sheep will not prove beneficial to the farmer. The points made by the Homestead will not only apply to the states of the middle-west but to all states where ranges exist and where sheep can be raised at moderate cost. We quote:

"There are fewer sheep in the United States today, when compared to the population, than there were 50 years ago. In 1850 there were .94 sheep per capita and in 1900 there were only .52. While this is the exact situation, it does not tell all of it. Fifty years ago there were but few sheep exported into other countries and great numbers of them were kept for their fleeces and they would be counted by the census officer, whereas in later years the sheep are soon made for the shambles and are turned into market for meat. Fifty years ago the large sheep ranches of Australia and South America had not been started to supply the demand for sheep products as now.

We did not start out to prove anything by this lack in increase of sheep in proportion to the population, but we thought it might be a help to understand the situation and answer the question, "Why not more sheep?" In passing along over the country one will sometimes travel miles without having the privilege of seeing a flock of sheep. If there can be any good reason why farms should be lacking in sheep we would be pleased to know what it is. We have been studying the problem for many years and we seem to be no nearer a solution now than we were 40 years ago.

"The man who keeps sheep finds them profitable, the packer is interested in a good grade of sheep and the better the grade the greater interest he takes in his business. The consumer of mutton also has an interest in the business, for he knows a good cut of mutton when it is put before him. The wearer of woolens is also very much interested in sheep, since he would much rather wear wool than shoddy and especially when he pays "all wool prices" for clothing.

"Sheep have been the salvation of England where the land is far more valuable than in this conutry, and yet there are those in this country who feel that the land is too high in price to admit of the sheep industry entering into the plan of management. It is there where the animals with the golden hoof pays the rent.

"Let us study the problem from a profitable standpoint and see why there are not more sheep. The chief reason why there are so few sheep is because people are not educated in their management. With so many it is "Like father like son." If the father kept sheep the son is liable to follow. If he has not kept them the son is liable to not know anything about the business and will probably not go much out of his way to ascertain what there is in the industry. This is a poor excuse for a man who is intelligent. Intelligence speaks out loud and indicates the way one should go to make his vocation profitable and helpful. A look at the situation when compared with present prices of sheep products ought to be convincing to any man who will take the time to give the matter a little study. There are but few farms where the farmer would not be better off by having on them a few sheep. Now and tehn there will be a failure, but there are fewer failures in this line than then there will be a failure, but there of the sheep require a peculiar management and one has to gain a knowledge of this method and have a liking for the business.

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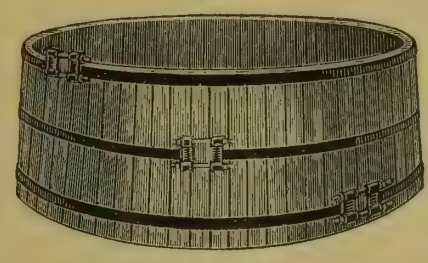

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

GREEN BONE AND POULTRY PROFITS.

My experience with cut bone as a food for fowls extends over two years only with a flock of 100 hens. Prior to that time I had not used cut bone and my article is based on the percentage of gain in the growth, health, and eggs of fowls over the two years previous, when I did not use bone; all other conditions for the four years being about the same.

My attention being called to the value of fresh cut green bone as a food for poultry, regularly twice a week I tried crushed hog bones as best I could and fed it to layers. The result was so satisfactory I bought a small bone cutter and began to feed green cut bone to my poultry regularly twice a week. I tried all sorts of bones and have found the hog and beef bones the best, being easier obtained and containing more of the nutritive value.

I get a soup bone of the butcher, shave off the meat (a little meat won't hurt if you intend feeding as soon as cut) and I feed the same day it is cut.

Some people make the mistake of using bones that have been boiled or lain out and sun bleached. Some of the most essential feeding value of the bone has thus been lost, especially as feed for growing chicks. The animal, as well as the mineral, qualities on the bone are what make it valuable. I experimented with cut chicken bone a little and fancied I saw an improvement over the other bone, but I am not sure, and even though there be, it is not convenient to get green chicken bone. Be sure that the bones used are not those of animals that have died of disease, old age or starvation. The former two are dangerous to the health of fowls, the latter worthless. Bones of young animals are best.

For growing chickens, after two weeks old, I mix the bone meal with corn chops, dampened with curd milk (water will do), so that each bird gets from half to one teaspoonful of the bone meal, according to age.

It is an excellent bone food for the fowl and general invigorator and growth forcer.

Extra large and quick growth bone in fowls means more meat, and more meat means 7 to 10 cents per pound.

For laying hens, I feed mixed as above so that each hen gets one tablespoonful twice or three times a week, according as I think they may need an extra allowance. They need more when they are laying regularly or molting.

The results of the bone as a feed are seen in a very few days in the renewed vigor, health and appetite, and last, but not least, egg product.

Taking every advantage gained by feeding bone—i. e., general health of flock, quick growth of broilers, increase in amount of eggs, etc., over the two years bone was fed, I figure it—and I keep close accounts—that the profit derived is 15 per cent over the profits of the two preceding years. This 15 per cent is attributed to the bone feed and the other increase in profits was credited to the source from which they came.

Now, don't feed an overdose at first, or at any time for that matter; feed regularly.

Don't expect the hens to lay two eggs daily and the young chicks to spring up in one night like mushrooms when they are fed bone. Mix well with the other food so that each bird gets its proportionate share.

Don't expect to feed bone only. The bone is only an additional feed, a sort of tonic.

Now, I am not going into details to explain how the bone assists—could not if I wanted to—only to say that the component parts of all meat bones are the same, and the mineral part of the bone may be found in egg shells. Bone and shells must be supplied from what the fowl eats; hence we feed it to them, directly in the shape of cut bone, instead of indirectly in the shape of corn, oats, etc.

If you once give fresh cut green bone a trial as a food for fowls you will never discontinue it.—W. F. Adams, in Farmers' Voice.

STARTING THE POULTRY BUSINESS.

Many persons are of the opinion that the poultry business is one that requires a mediocre sort of ability; that it is a tinkering, sputtering, old-womanish kind of a business. Many a man who has started in the business by investing considerable capital at the outset has had the above idea suddenly dispelled from his mind. The keeping of poultry is a business that may be started on a very small capital, but even though the beginning is small if any success is attained there must be some special knowledge brought to bear in the care of the fowls from the start or failure will be the outcome. A man must have some special knowledge to choose proper quarters even for a few fowls. If this is not done an endless amount of trouble is apt to follow. If buildings small or large are erected here again some special knowledge is necessary. At every step it will be found to be an occupation requiring a high form of technical skill if satisfactory financial results follow.

We would advise no one to go into the raising of poultry extensively at the outset. Buy a few good fowls and at the same time begin posting yourself on the subject by reading extensively. Study closely the habits of the fowls themselves so as to find out the environment that is most congenial, the food that is best adapted to their needs and the care they require generally. Remember that the poultry business is one of head work as well as work of the hand. Where one has a strong liking for the business and chooses to make this line of effort his life work it is often advisable to pick up the first experience by hiring out to one who is known as being a successful poultryman. Where large numbers are dealt with one would pick up information rather more quickly than where the numbers are small, hence the advantage of learning the fundamental principles in a manner that involves no one in loss.

The statement has been made by a prominent financier that no man ever made a marked success in life who was content to work but seven or eight hours each day. Not but what he thought that this number of hours of one kind of work was sufficient, but that a man who wished to achieve success must in addition exert himself by way of improving his mind or otherwise outside the hours of regular work. This is particularly true in poultry if one expects to achieve any degree of success. They need attention early, late and all the time.—Iowa Homestead.

LAYING EGGS.

If you expect to make money from eggs, you must understand how to manage your hens. You must have your chicken house so arranged that your hens are under your control and then take good care of them. You must encourage them to lay at the time of year when eggs bring the best price, and keep them from laying when the price is low. That is business. Farmers' wives do not generally run the poultry business in that way, however. It can be done and it pays well to do it. Start with a few and see what success you have. If you can do it, branch out and increase your flock another year.

When eggs are cheap, put your hens on half ration for about two weeks, then they will cease to lay. Next, put them on good feed. Sunflower seed and corn makes a good feed, or better still, wheat and sunflower seed. This starts them molting. Feed them this way for about two weeks, then they will begin to shed their plumage, and by the time your neighbors' hens stop laying yours will have rested and be ready to begin laying in earnest again and keep it up all winter, while prices are right. Do not keep all of your old hens. Sell off about half of them each year and let good pullets take their places. The egs from old hens are larger than those from pullets, but the latter are better layers, and you are after numbers more than size. When feeding your hens, be careful not to feed them anything that will taint your eggs, for eggs absorb odors about as rapidly as does milk. When you prepare your eggs for market, see to it that they are packed with care; have them uniform in size and color. Look for customers who can afford to pay a fancy price, and give them a fancy article. That is the way to make money out of your hens.—Tribune.

In looking over the markets in this city, the wonder is not that some of the poultry brings such a low price, but the wonder is that such old, scrawny hens, and poor, coarse roosters, can be sold at any price.

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And tells you how he made it.
The hen admires the China egg
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508 SACRAMENTO ST. SAN FRANCISCO, CAL.

Brooder Chicks.

One of our correspondents asks what to do for brooder chicks when they no longer require heat, will it give them cold to open the lid of the brooder to give air and ventilation, leaving it open half an inch. This was one of my hardest problems and I am not sure that I have solved it yet. I found that leaving the lid open a little was dangerous it made a narrow draught that would cut like a knife and in the human family in this climate, mind, I say in this climate, it would surely bring on an attack of neuralgia or earache, which in chickens would be "swell head" or roup. It would be a better plan to leave the lid wide open if your brooder is in a house, but then you say the chicks would be out and all over the place in the morning. The next best thing is to keep them out of the brooder entirely ,and this is my plan. But again, you must decide for yourself, for if you are raising only broilers, I would advise you not to run the risk of any change, but simply keep them during the 8 or 9 weeks of their life with the brooder heat at night. If you want them for breeders you might try my plan. I put straw in their inside run in the house and let them nestle down in that, and after a few weeks, it depends upon the weather, their size or thriftiness, I put a set of small perches in, I make a set for each indoor run and for a few nights I put those on the perches who have not sense enough to get on themselves, or I make a little platform of laths, (with the laths the width of one lath apart) and a few inches above this I put good perches one inch by three inches broad. These "platforms" I use in my weaning houses. I keep one or two ready to use at any time if I find chicks crowding or huddling at night. It is a sure cure. Little chicks are pretty and very fascinating in their little ways and games, but oh! how stupid sometimes and obstinate sometimes! I have found one whole brooderful will have to be put to bed like naughty children every night, they simply were perverse whilst their brothers and sisters in the next brooder gave me no trouble at all. And those little perversities kept it up till they were four or five months old, until I separated the sexes and even then I for a few nights found some outside in the yard. One has to have patience with chickens and children and I often wonder what the men poultry breeders do. Any change, such as change of sleeping apartment with chickens has to be made cautiously; they are very apt to take cold unless the houses are similar in ventilation, etc. One more item about little chicks wihch I forgot to mention in my last, if they get "stuck up behind," as it is called, do not wash this off with water, but pick it off gently and grease the place with carbolated vaseline. The "stuck up" condition usually comes from a chill or being overheated and if not attended to frequently ends fatally.

CHOLERA ERADICATED.

The San Francisco Dairy Review is authority for the statement that the veterinarian of the experiment station of the University of California, Dr. Archibald R. Ward, has announced the successful eradication of cholera among the chickens in Marin and Sonoma counties. This disease has for some time caused heavy loss among the poultrymen in this noted district and was spreading rapidly until checked by Dr. Ward's work. Fully $25,000 has been saved to the poultrymen.

Indications are that throughout the country eggs are becoming unusually scarce on account of the "short crop." Why such a contingency should be general throughout so large a country is hard to explain, unless, perhaps, hens are partaking of the great strike epidemic now everywhere prevailing. What their demands are we cannot imagine.—Farm and Ranch.

We know a woman in this part of the state, who has paid for her home of one and one-half acres, from the products of 100 hens and one Jersey cow. The home is valued at $4700, and is completely equipped. All this was done in less than ten years.

Some farmers may smile at the thought of feeding hay to fowls, but they will find chickens very greedy to consume finely chopped steamed clover hay mixed with ground corn, oats, and other grains.—Sentinel.

No hen will do its best in production when it is made uncomfortable by lack of proper shelter and proper feed.

The hen to produce best results needs as particular attention as the cow.

At a meeting of poultry men held in Petaluma last week, Organizer H. Murray said the egg men paid last season to commission men of San Francisco $108,000. That could be mainly saved if egg men would form a co-operative association and employ one man at $835, to attend to the selling.

S. R. Kellam, Pres. C. T. Paul, Vice-Pres.
Geo. Pomeroy, Treas.

The Poultry and Pet Stock Show of the Season

THE

12th ANNUAL FIXTURE

OF THE

Los Angeles County Poultry Association

TO BE HELD IN

HAZARD'S PAVILION

LOS ANGELES

December 8-12, 1903

It is the purpose of the Los Angeles County Poultry Association to not only make the coming fixture a "good thing" in so far as quantity and quality of exhibits are concerned, but a great gathering of breeders and fanciers calculated to strengthen and stimulate fraternity and develop the poultry industry. In this laudable ambition it expects and asks your cordial support.

The judging will be by comparison with Messrs. Cobbledick, Tyler, Butler and Venn in the saddle.

The awards will consist of honors, many valuable specials and cash premiums.

Admission 25 cents; children 10 cents Send for premium list and entry blanks.

Henry W. Kruckeberg,
Secretary
123 S. Los Angeles St., Los Angeles

The poultry exhibitions of California for this season are as follows:

Mechanics Pavilion, San Francisco, Cal., December 1-5, 1903, under management of the Oakland Poultry Association. J. C. Williams, Secretary, 33 Market St., San Francisco, or Fruitvale.

Los Angeles, Cal., December 8-12. 1903.—Twelfth Annual Exhibition Los Angeles County Poultry Association, to be given in Hazard's Pavilion. Comparison judging. Henry W. Kruckeberg, secretary, 123 S. Los Angetes St., Los Angeles.

San Diego, Cal., January 6, 7, 8 and 9, 1904.—The San Diego Poultry and Pet Stock Association. Harry McIntire, secretary, San Diego.

EGGS

Buff Leghorns from Chicago world's fair prize winners, $2.00 per 15.
Buff Orpingtons, Harris strain, Clay Center, Nebraska, $1.50 to $2.00 per 15.
Buff Orpingtons, Riddel stock, Fresno, Cal., $1.50 to $2.00 per 15.
White Leghorns, Lytle strain, $1.00 per 15.
All strong, healthy ranch raised stock.

LOUIS S. FLETCHER, ANAHEIM. CAL.

Three Pointers!!! LOANS, REAL ESTATE, COLLECTIONS. Borrow on personal note and pay in installments. Real Estate sales and exchanges made everywhere. Collections-send your claims to us. No collections-no fee. Business correspondents everywhere. Write us inclosing stamp.

Riverside Mercantile Agency, Riverside, Cal.

ROUP and CHOLERA

First know what is wrong with your fowls before giving medicine. Some would tell you that there is no cholera in this country. Try a package of Palmer's Cholera Remedy in all cases except Diphtheratic Roup, and you will find it effective.

PALMER'S POULTRY POWDERS

Trade Mark

We have what you've been looking for—a guaranteed cure for Roup and Cholera—something that cures in every case if used according to directions. Palmer's Poultry Powders—the only infallible remedy ever offered the public for Roup and Cholera. Manufactured in your own State by the

PALMER POULTRY POWDER CO.,

Henry Albers, Dis. Agt. 102 S. Spring St., Los Angeles, Cal.

50c and $1.00 Per Package

White Leghorns and Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices. G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

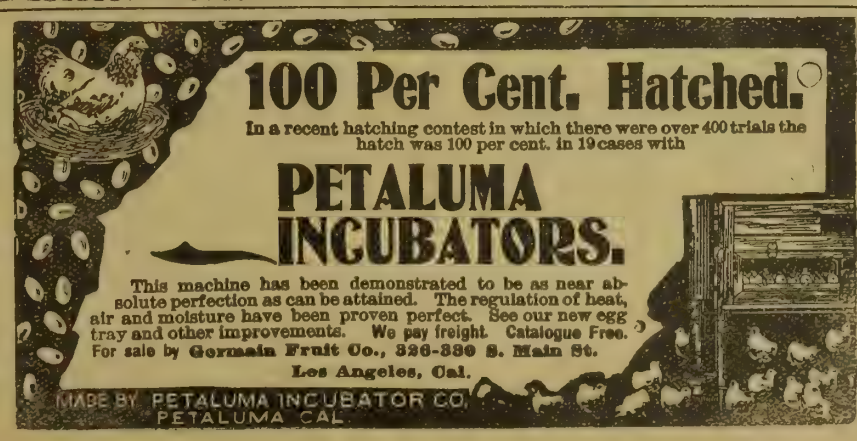
WHITE PLUME RANCH

WHITE PLYMOUTH ROCKS and INDIAN RUNNER DRAKES

On account of the health of a relative I wish to sell my home, "The White Plume Ranch," one and one-half acres of land, between Los Angeles and Hollywood, with the good will of the business, prize winning fowls, ducks, turkeys. It is income-making property. Apply on the premises.

Mrs. A. Basley

(Take Colgrove Car) Alma St. Prospect Park, Cal.



100 Per Cent. Hatched.

In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with

PETALUMA INCUBATORS.

This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free. For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.

MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL

MIDLAND POULTRY FEED

Will make your fowls moult in one-half the time, which means they will lay that much sooner. "Laying fowls are paying fowls." You will not be disappointed at the results you get from feeding Midland Feed.

No. 4, Egg and Feather Producing Food

Is what you should feed your hens now, and the results you get will surprise you, for we know it will prove a paying investment. Our book, "The Science of Poultry Feeding," will tell you more about this feed. Send for it. It is FREE. Also

No. 1, Nursery Chick Food
No. 2, Growing Chick Food

We will be pleased to give you further information about this feed if you wish it. WRITE FOR PRICES.

The Only Reliable Balanced Ration for Poultry in the World.

These special foods are composed of the very best materials obtainable and as carefully and accurately mixed as it is possible to make them. They are a COMPLETE FOOD and will produce specific results, each for its purpose, and no other. We want you to become an established customer of ours. We want your trade, be it little or much. There is only one way we can secure it and that is by sending you material that will do what we claim for it.

The Midland Feed will cost you very little more than any good grain you now feed, and no more than you now expend for all the extras you must use in addition to your grain, and the results will be so far in excess of any previous experience you have had that you will readily acknowledge its value.

What the poultry man must be able to count on to a certainty is RESULTS.

The following buy in Carload Lots and act as our distributors in their respective localities, supplying the dealers and consumers:

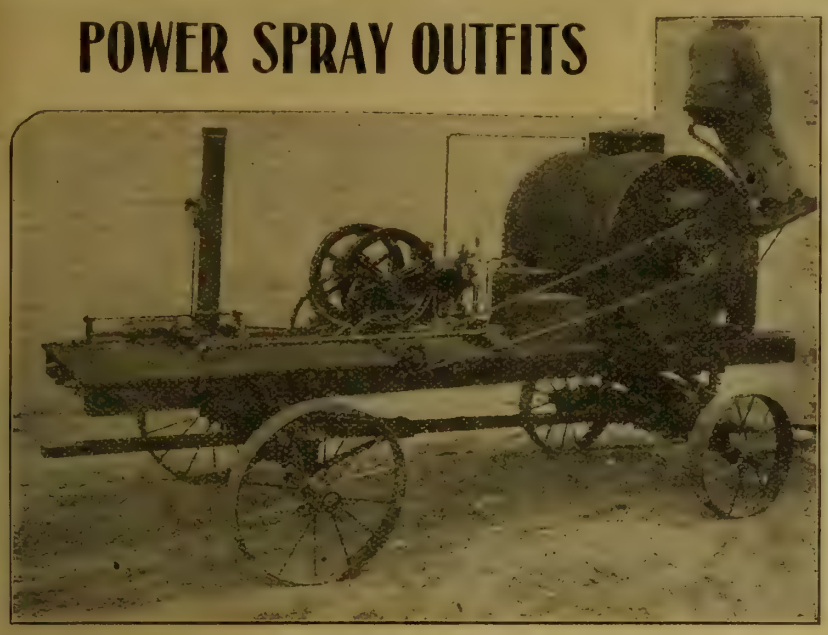
FREDERICK BROWN, San Jose, Cal.
KUTNER GOLDSTEIN CO., Fresno, Cal.
P. C. FREDERICKSON, Fruitvale, Cal.
J. T. STONE, Haywards, Cal.
LILLY, BORGARDUS & CO., Seattle, Wash.
PETALUMA ROCHDALE ASSN., Petaluma, Cal.
PHOENIX MILLING CO., Sacramento, Cal.
HENRY ALBERS, Los Angeles, Cal.
LUBBEN BROS., Alameda, Cal.
PORTLAND SEED CO., Portland, Ore.
SANTA ROSA ROCHDALE CO., Santa Rosa, Cal.
GEO. P. McNear, Petaluma, Cal.

Petaluma Incubator Company

Pacific Coast and Trans-Pacific Agents

Main Office and Factory, Petaluma, Cal. Eastern Office and salesroom, Indianapolis, Indiana.
San Francisco Office and Salesroom, 33 Market Street.

POWER SPRAY OUTFITS



Using Lambert Distillate and Crude Oil Engine for power—double-acting, outside-packed piston pump, especially designed for Power Spray Rig. Tanks are fitted with power agitator, which insures a perfect mixture. Built and for sale by

S. J. Smith, 129 North Los Angeles Street, Los Angeles, Cal.

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes. Complete Irrigation Plants

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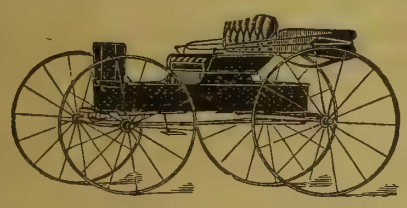
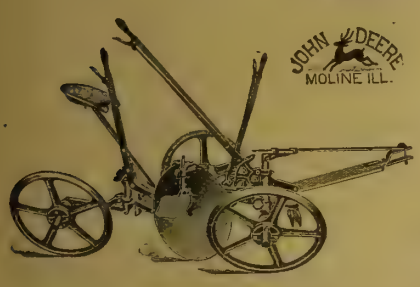


We have a branch Carriage and Harness Store at the Corner of Broadway and Fifth St.



We are agents for the celebrated **Deere Plows, Harrows** and ORCHARD CULTIVATORS.

DEERE DISC and WALKING PLOWS.

This Drill is no Experiment—We Have Sold Hundreds of Them.

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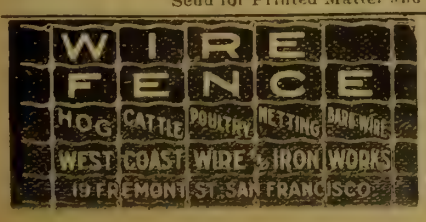

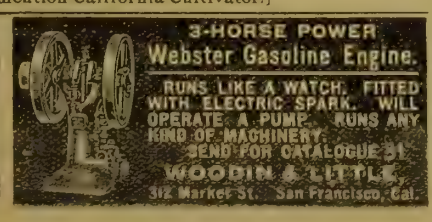

OUGHT THE WIFE TO KEEP THE PURSE.

Without raising the question who should be boss of the family, the Edinburgh Scotsman discusses in a practical way, says the Baltimore Sun, the pros and cons of giving all one's earnings to one's wife and thus making her the financier of the family. It is especially important, our contemporary thinks, for this to be considered by the newly married, since the beginning of married life is the time to fix wholesome precedents of thriftful management. Among the very poor, it is stated, it is the rule for the wife to keep the purse, or rather, to spend the joint earnings, for when one lives from hand to mouth there is really no purse to keep. The problem is to get the most for the money, and the family income is never sufficient to satisfy pressing wants or desires. Woman's talent for negotiating small purchases fits her especially for the expenditure of small incomes. It is a familiar fact that in marketing, or other ordinary bargaining, she brings home more than her husband could for the same amount of cash. Under her management the whole income goes, but it obtains ordinary necessaries and comforts in greater variety and quantity. Among the very poor no great scope is given for thrift, since wages barely cover the necessaries of life.

It is when the income becomes somewhat ampler that feminine finance begins to seem at fault. The problem then for the purse-keeper is not merely to get bargains, but to provide for the contingencies of the family's future. "Experience," the Scotsman observes, "soon teaches the young wife the necessity of providing for daily wants from one payday to the next, but she is not so likely as her husband to realize the necessity of providing for far-off contingencies. The great incentive to saving is the desire to become independent; and neither by nature nor by training has the woman anything like the same feeling in this respect as the man. She may be earning her own living, but it is not for the glorious privilege of being independent. From her infancy her training has been to repress, rather than exercise, a spirit of independence. The necessity of saving is not presented to her in the same strong light as to the man." The latter lives in a larger world and is taught by circumstances to look further ahead. If he is ambitious—if he wishes not merely to stay where he is but to improve his position—he realizes the necessity of saving. It is not enough to make ends meet; there must be a weekly deposit in the savings bank if there is to be progress in the family's circumstances. Many wives appreciate the importance of the bank account as a means of rising in the world, but the majority, it is held, think no further than to get the most for their money. When the family income reaches the point that saving is practicable, masculine finance, our contemporary hints, must asert itself. There must not only be good bargaining by the wife for daily necessaries, but the husband should become a factor in the financial deliberations of the family and reserve part of his income for accumulation of capital.

Just here is where the Scotsman becomes a trifle cynical and unjust. The "model wife," it says, is always getting bargains and buying what she has no use for, just because they are bargains. She balances expenditure accurately against income, but keeps no books—not even a bank book. "She is seldom," it is added, "found in conjunction with the model husband, but she will do the best she can with any type of husband except one. That one is the husband who concerns himself with domestic affairs, who knows exactly what it takes to keep the house, who gives that sum to his wife, and puts the balance of his pay in the bank. That type of husband she cannot endure. If he were spending foolishly the money he is saving she would forgive him, even to seventy times seven. Every offense of that kind would show to advantage her own superiority. But to put her upon an allowance and to keep a bank account is to add insult to injury, and she resents it. She is not getting her proper place—he is master and mistress too—she is his slave and helping him to save for a second wife to spend. Her friends declare that he is starving the children and ill-using his poor, dear wife. But the worst of it is that unless he is a man of great resolution he gives up the attempt to save and tries to take all the pleasure he can get out of a hand-to-mouth existence." This is not fair to the average wife. In many families the wife is the thrifty member, and but for her there would be no saving at all. But for her there would be no home, nor education for the children. The average wife is fully as competent to carry the purse as the husband. At any rate try her. If she proves a spendthrift, then give her an allowance; otherwise treat her as a full partner in your business.

A poultry journal says, ducks should not be required to roost with the chickens. And there is no indication in the paragraph or the context that it was intended as a joke.

Chickens deprived of water at regular intervals will not thrive, no matter how much they are fed.

GO TO GARDENA

Where the alfalfa grows so luxuriantly, giving from 6 to 8 cuttings per year, and producing when fed to cows a superior product of milk and butter—the secret — there being no alkali to detract from the purity of the milk, as demonstrated by the noted Strawberry Brand of Butter made by Mr. Davis of Gardena. The success of our Chicken Ranches depends upon having green alfalfa as a food product in the production of eggs at a time of the year when the dry ranch farmer has no green feed to make the hens lay. Our small alfalfa, dairy and chicken ranches are making good livings.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset with bearing fruit trees. Berries, one acre of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room honse, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house snd barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

GRAY & NELSON

Gardena, Cal.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

GARDEN TROUBLES.

Mrs. F. C. W., Los Angeles, writes for advice on a number of subjects. The letter is too long for publication, but the matters are treated in the following:

Bulbs for boxes on porch may consist of Anemones (bulbous), soil well drained, keep cool and not too wet until growth appears: Ranunculi, same treatment as above, flowering season of both may be prolonged by shading from hottest sun. Narcissi, which should be planted twice as deep as the last two mentioned or about four inches. While the soil should be rich, no manure, either fresh or decayed, should touch the bulbs, they should be fed by top dressing. Ornithogalum Arabicum, which you call "black-eyed lily" is suitable of box culture—the pistil is a shiny-black while balance of flower is white. These bulbs may be fed more freely than the others and gladioli, which would complete the list, should have more water and food than any though all may be watered freely when growing.

The writer does not agree with the treatment often prescribed for the true Amaryllis or Belladonna Lily of shallow planting with the neck of the bulb left out of the soil. On the contrary the finest and most regular bloomers have been found deeply planted. Amaryllis are gross feeders and will stand a heavy top dressing of decayed manure several times each year and it matters little when such food is given.

The chief requirements of the Agapanthus are water and manure in liberal quantities during the growth and flowering season, allowing them to become dormant, if possible, for a time each year. The writer does not remember the bulbs reccommended by a writer in the Sunday edition of one of our dailies but can say with certainty that the writer of same is well posted.

CONIFERS FOR STREETS.

An observant writer of considerable experience begs to differ with the writer upon the subject of the impropriety of planting conifers (cone-bearing trees) along city streets. Pages could be filled with matter relating to this erroneous planting, by the best known authorities of the day, but we quote from one only (for lack of space), "Gardening in California," by Wm. S. Lyon, who had been in some department of the plant business for thirty years. "Both conifers and palms are frequently used for street planting but as language is not strong enough to condemn the impropriety of the use of either for this purpose no further attention is accorded them here * * * Public convenience demands the removal of all the lower branches for a heigth of eight or ten feet of trees that align a sidewalk or public highway. As the exquisite beauty of most conifers depends entirely upon the integrity of the lower limbs, the impropriety of planting any tree subject to these requirements becomes apparent. A notable exception can be made in the way of a boulevard of imposing width —not less than one hundred and twenty feet. On such an avenue or driveway a central line of Monterey pines may be tolerated." Writers differ regarding the use of palms along streets, but they seem to be consistently unanimous in the condemnation of the use of conifers.

THE FRIENDS WE MAY HAVE.

Squirrels make very interesting pets, but they cannot be attractive unless they are happy. If you live where there are squirrels and chipmunks, you will soon discover how friendly they are. I know one family of children who live in a little house in the woods in summer, who have been so kind and tender to the little people of the woods that they come fearlessly to the house. The squirrels and chipmunks know that in the stumps about the house they will find food that loving little hands have put there for them. They know that under the piazza are large bowls of water. The birds know that hanging in the trees are pails of water as soon as the spring gets low, and a visit to the piazza means a particularly dainty morsel. A squirrel can be taught to play with a ball or a spool. The story is told of a pet squirrel who would stop in the midst of a game of romp, and disappear, to return with a couple of nuts which he would drop down the back of the neck of the lady or little girl who was playing with him. The family thought that the squirrel did this as a mark of approval, for he never looked for the nuts again. It is worth while, if only for the amusement afforded, to make friends with the birds, squirrels and chipmunks about our homes in the woods.—The Outlook.

QUIT YOUR WHINING.

There isn't anything in the world more disagreeable than a whining person. He whines if it is hot; he whines if it is cold; he whines at this, and he whines at that—he whines at everything. Whine, whine, whine. It is just a habit he has fallen into. There is nothing the matter with him—it is just a bad habit. The whiner is generally an idle person or a lazy one. What he needs is to be set to work at real hard work, mental or physical—some work that will interest him, and engage his whole attention, and he will have no time left in which to whine.

We know two women. One of them does her own housework, and takes care of her horse besides. She is happy, and singing all the day long. The keyboard of her life sounds no whining note. It is a pleasure to be with her, a good, wholesome tonic to watch her. The other woman is so situated that she does not have to work—nothing to do but to amuse herself. She has no zest in life, no interest in anything. She is a bunch of selfishness, and she whines at everything. Whining has become such a habit with her that her most casual remark is tinged with a whine. She is miserable herself, and makes everybody else in her presence miserable. She is a weakling, a parasite—a drag, a heavy weight on somebody all the time.

Get the whine out of your voice, or it will stop the development and growth of your body; it will narrow and shrink your mind; it will drive away your friends, and make you unpopular.

Quit your whining. Brace up. Go to work. Be something. Stand for something. Fill your place in the universe. Instead of whining around, exciting only pity and contempt, face about, and make something of yourself. Reach up to the stature of a strong, ennobling manhood; to the beauty and strength of a supurb womanhood. There is nothing the matter with you. Just quit your whining, and go to work.—Medical Talk for the Home.

Not all Cultivator readers know that the value of salmon taken from Alaskan waters equals in value the gold output of that territory. About $50,000,000 of each have been produced. In sealskins the wealth from Alaska has exceeded those figures, being $52,000,000.

There is a plant at Fresno that works up stems and broken grapes rejected by the packing houses. They make from the refuse, oil, alcohal, tannin, tartaric acid, vinegar and other valuable articles. After the extraction of these products a meal is left, which is valuable feed for stock.

Under the direction of General Manager Briggs, of the State Board of Trade, the investigation is being pushed to ascertain why there is such a difference between the prices received by the producer of fruits and grains, and the prices paid by the consumer.

The United States annually pays millions for baskets and willow work that comes from Germany. Now a New England Yankee has succeeded in making a substitute for willow from paper. It is tough and durable and must inevitably displace the German article.

J. A. Kinghorn-Jones, of San Francisco, is arranging to buy a block of ground in the outskirts of the city on which he will erect a house of one thousand rooms for housekeeping. Rooms will be sold to families, to be paid for on the installment plan. It is a co-operative movement patterned somewhat after the plan of building and loan associations.

A voting machine was tested at the San Francisco election November 5d. During the day 576 persons voted in the machine to test it. It was closed at precisely 5 o'clock. In just five minutes the full returns of the vote on the respective candidates was announced. It is a marvelous invention and does its work automatically and accurately.

AN APPRECIATIVE BOY.

Little Charlie was dressed in his very best clothes one day, and really looked quite fine.

"Now," said he to his mother, "I want you to come to the window when I go out, mother, and watch me."

"I know that I can trust my little boy," said mother; "he will not be careless."

"It is not that," said Charlie humbly. "I want you to look out and be thankful that you have such a boy!"

James R. Townsend Francis M. Townsend
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Rooms 430-31-32-33 Bradbury Block, Los Angeles, Cal.

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(Incorporated)
BIG STOCK OF
Resistant Grapes
Fruit Trees
Shade Trees
Ornamental Trees
Vines Shrubs
Asparagus Plants
Sturdy Stock
Try Them
Chico Nursery Co. 308 WALNUT ST. CHICO, CAL.

Indian Life Customs Ceremonials
Picturesquely, entertainingly told in "Indians of the Southwest."
BOOK STORES
FIFTY CENTS
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SEATTLE'S APPEAL.

[There is a shortage of women at Seattle, Wash. Many unmarried men in that thriving city are yearning for wives, and an appeal for girls has been sent to the Mayor of Troy, N. Y., where the female population is greatly in excess of the male.]

Oh, give us girls! A town like this demands
Sweet girls, fair girls; we wish to claim their hands—
Girls who will darn our socks and cook our meals,
Girls who will stroke our brows when we are ill;
Girls who will listen to our fond appeals
When urged, by love, we look for girls to fill
The empty places at our firesides—
Oh, send us girls, if possible goodlooking,
If not, send any kind to be our brides,
To sew our buttons on and do our cooking.
—S. E. Kiser, in Chicago Record-Herald.

GIVE ME THE BABY.

Give me the baby to hold, my dear—
To hold and to hug, and to love and kiss.
Ah! he will come to me, never a fear—
Come to the rest of a breast like this,
As warm for him as his face with cheer.
Give me the baby to hold, my dear.

Trustfully yield him to my caress.
"Bother," you say? What! "A bother to me-"
To fill up my soul with such happiness
As the love of a baby that laughs to be
Snuggled away where my heart can hear!
Give me the baby to hold, my dear.

Ah! But his hands are soiled, you say,
And would dirty my laces and clutch my hair—
Well, what would pleasure me more, I pray,
Than the touch and tug of the wee hands there?
The wee hands there and the warm face here—
Give me the baby to hold, my dear.

Give me the baby! (Oh, won't you see?
* * * Somewhere out where the green of the lawn
Is turning to gray and the maple tree
Is weeping its leaves of gold upon
A little mound with a dead rose near)
Give me the baby to hold, my dear.
—James Whitcom Riley.

JACK'S TWO DINNERS

(Concluded)

Jack laid the letter down with a rush of new feelings and thoughts that overwhelmed him. He sat there for hours, he knew nothing of time. He had mechanically turned the cranberry jar upside down and taken from the bottom carefully wrapped in white paper, fifty dollars.

A pang went through him. Well did he know what that money represented to his sister; by how many sacrifices she had been saving it for a year of two, with the single purpose of taking the lessons from a great master that were to fit her to teach, to take an independent position in the world, to relieve her father who had lost a large slice of his comfortable income, and who was growing old and sad under his burden. She had often talked it over with him.

Now she had generously given up the whole to him; all her hopes and dreams of independence; and he—he who should have been the support of his sister, the right of his father—he had basely deserted.

These thoughts and many more surged through his mind that long afternoon, and when Tom returned as the shadows were growing long he sat exactly as he had been left.

On Tom's entrance he roused himself. There was a new light in his eye.

"Come, Tom," he said, "dinners' waiting. You must be hungry by this time."

"I am that," said Tom, who had been through his own mental struggles meanwhile.

The two sat down once more to their Thanksgiving dinner, and this time they managed to eat, tho' Jack choked whenever he thought of tasting a bit of Jessie's pet turkey, Winnie; and much as he liked turkey, and a home turkey at that, he could not touch it.

After the meal, when the provisions were stored away in the cupboard (a soap box) much too small for such a supply, it had grown quite dark, and the two, still disinclined to talk, went to their beds—if the rough bunks they occupied may be dignified by that name.

But not to sleep—at least not Jack, who tumbled and tossed all night and got up in the morning with an energy and life he had not shown for weeks.

After breakfast Tom shouldered his pick and said:

"I'll go on, Jack, while you clear up." Yet he felt in his heart he should never see Jack again; for there was a home-struck look in his face that the man of experience in the ways of runaway boys knew well.

He was not surprised that Jack did not join him, nor that when he returned at night to the cabin he found him gone and a note pinned up on the door:

"I can't stand it—I'm off for home. You may have my share of everything.

"JACK."

It was a cold evening in early December, and there seemed to be an undercurrent of excitement in the Jarvis household. The table was spread in the dining-room with the best silver and linen. Mrs. Jarvis was better, and had even been able to go into the kitchen to superintend the preparations for dinner.

Jessie went around with a shining face that no one understood and she could not explain.

Betty was strangely nervous and had made several blunders that morning which mortified the faithful servant very much. An air of expectancy pervaded the whole house, though the two heads of it had not a hint of the cause.

Jessie heard the train she decided to be the important one. She could hardly contain herself for expectation. She tried hard to sober herself now and then by the thought "Perhaps he won't come"; but she couldn't stay sobered, for she felt as certain that he would as that she lived.

You all know how it happened. The door opened and Jack walked in. One instant of blank silence, and then a grand convulsion.

Jack fell on his knees with his face in his mother's lap, though he had not thought a moment before of doing any such thing. Jessie hung over him, frantically hugging him. Mr. Jarvis, vainly trying to join this group, could only lay his hands on Jack"s head and say in broken voice:

"My son! My son!"

While Betty performed a war dance around the party, wildly brandishing a basting-spoon in one hand and wiping her streaming eyes on the dish-cloth which she held in the other.

It was long before a word could be spoken, and the dinner was totally ruined, as Betty declared with tears (though they were not for sorrow), before any one could calm down enough to eat.

Then the reaction set in and justice was done to the dinner while talk went on in a stream. Jack did not tell his adventures; he only said that he had come from the city, where he had made arrangements for a situation with Uncle John—at which Jessie's eyes sparkled. His looks, even after a week of comfort and hope, spoke of his sufferings.

There is little more to tell. Jack Jarvis at seventeen was a different boy from the Jack who at sixteen started out to seek his fortune. You may be sure that Jessie had her music lessons after all, and that a new Winnie with a fine young brood at her heels stalked about the Jarvis grounds the next spring.—Olive Thorne Miller in New York Independent.

THE MISSION OF THE STREETS.

When Margaret Andrews was twenty five she received what she thought was a call to the foreign mission field. Her parents, although at first they tried to dissuade her, put no obstacle in the way of her hopes, and full of eagerness, she began her training at a school in another city.

One day she received a telegram. Her mother had met with an accident; just how serious could not at once be known. Margaret packed her books, and took the first train for home, expecting to return in a few weeks. Long before the weeks had passed she knew that her dream must be given up. Her mother would never be able to do anything again, and Margaret, instead of making her journey to strange lands, saw herself shut into the duties of housekeeper and nurse.

For a year or two she bore her disappointment in silence; then she went to her pastor with it. The pastor was an old man who had known Margaret all her life. He looked at her steadily for a moment. Then he said, slowly, "You are living in a city of two hundred thousand people. Isn't there need enough about you to fill your life?"

"Oh, yes," the girl answered, quickly, "and I could give up the foreign field. It isn't that. But I haven't time to do anything, not even to take a mission class; and to see so much work waiting, and be able to do nothing—"

"Margaret," the old minister said, "come here."

Wonderingly the girl followed him to the next room, where a mirror hung between the windows. Her reflection, pale and unhappy, faced her wearily.

"All up and down the streets," the old minister said, 'in the cars, the markets, the stores, there are people starving for the bread of life. The church cannot reach them—they will not enter a church. Books cannot help them—many of them never open a book. There is but one way that they can ever read the pospel of hope, of joy, of courage, and that is in the faces of men and women.

"Two years ago a woman who has known deep trouble came to me one day, and asked your name. 'I wanted to tell her,' she said, 'how much good her happy face did me, but I was afraid that she would think me presuming on the part of an utter stranger. Some day perhaps you will tell her for me."

"Margaret, my child, look in the glass and tell me if the face you see there has anything to give to the souls that are hungry for joy—and they are more than any of us realize—who, unknown to themselves, are hungering for righteousness. Do you think that woman, if she were to meet you now, would say what she said two years ago?"

The girl gave one glance, and then turned away, her cheeks crimson with shame. It was hard to answer, but she was no coward. She looked up into her old friend's eyes.

"Thank you," she said. " I will try to learn my lesson and accept my mission—to the streets."—Youth's Companion.

WHAT HE THINKS OF BABIES.

A baby serves a manifold purpose in the world. He makes men and women more unselfish and furnishes the amount of trouble necessary to keep them comfortably busy. He sanctifies home and gives the doctor an excuse to look wise. A well-ordered, well-born baby with a red face and a bald head is a delight—particularly when he belongs to a friend, and doesn't spend nights in your neighborhood.

Every baby is the prettiest baby in the world and it can be proven by his mother. A baby that won't eat carpet tacks, brass-headed nails and young kittens is a mistake. Babies are bosses and boodlers. They control the first ward along with the twelfth, rule outrageously over the counties and take everything that cames their way without asking any questions. All babies are supposed, quite properly, to come from heaven, but what the angels, cherubim, seraphim and the rest of the celestial population do for sleep has never been inquired into. Boy babies are sweetest at 4 and girl babies at 24.

A baby is a joy forever until he begins to fall out of the second-story window, turn over the water pitcher, hammer the china to pieces with his

Cheap eggs are as good as cheap lamp-chimneys.

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Other Points In Proportion

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fork and investigate the medicine bottles on the shelf. Every baby is eternally trying to find out more than he has any business knowing, and the habit of asking questions lasts through life. The touch of a baby's hand opens up heaven to a woman and makes a man willing to wear patches the rest of his natural life. It has been said that every woman is entitled to at least one child. So is every man, but nobody has ever mentioned the fact.

Borrowing babies is much sadder than it is funny. Some day the Government will go into the business and keep babies to rent out—as a matter of morals alone. Every old bachelor's quarters will contain a nursery and clubs will be a thing of the past.—Paris (Mo.) Mercury.

THANKSGIVING THOUGHTS.

The great American feast day is Thanksgiving. It is more essentially so in the New England States where more attention is paid to this day than any holiday of the year. At Plymouth, Massachusetts, in 1621 our forefathers inaugurated this annual American feast. Since then it has grown in prosperity until today it is the most popular of all our many holidays. We turn to other nations and find the Jews holding a yearly feast in their tabernacles; the Greeks celebrating the feast of the Demeter; the Chinese paying tribute with feasts and dances to their annual national holiday. "The Saxon Harvest Home" has been celebrated since the memory of man; and Thanksgiving since the revolutionary war. So we are continuing the ceremony from year to year, glad of the opportunity so to do, glad that providence smiles upon our fair land and peace and prosperity reign over the country.

Let the best of good cheer abound at our tables on Thanksgiving. May our boards be loaded with the best the season has produced, and our appetites be equal to the occasion.

In memories' halls are stored away many incidents which marked happy days in gone by times. The old cider barrel, with its contents fresh from the golden apple orchard, and spiced well with wintergreen—a drink fit for the best of men. The buttermilk, hickory nuts, hazel nuts, chestnuts, fine beyond description, the pies and cakes, and puddings, and lastly the games we used to play when tired from eating we took to play to ward off horrid nightmare. Oh ,we have all been there, and we know the pleasure and the pains of the old Thanksgiving times.

A THANKSGIVING SACRIFICE.

"Old Speck" was the proudest hen turkey on the roost. She was the first to fly up into the tree at night and the first to say it was time to get up in the morning. She kept her feathers nicely plumed and Aunt Emma always called her the "Lady Turkey."

Early one spring, she stole away from the flock and made a nice nest in the woods near by. Before long, Aunt Emma missed "Old Speck," and said, "Surely it isn't time for turkeys to be setting." But sure enough, about a month later up came "Old Speck," with seven cold, bedrabbled little turkeys followed her. "Old Speck" looked pitifully up at Aunt Emma, as if asking her to help her out of her troubles, and Aunt Emma added her protecting wing to those of the mother and soon all were made comfortable.

Before long, the happy family were playing about the dooryard, basking in the sun, and always ready for the warm mashes brought them. "Old Speck" pecked her children sharply and scolded severely if she found any one being greedy, for she told them that they must be kind to one another.

All went well and nothing of importance happened until two nights before Thanksgiving. Aunt Emma told Tom that she wanted him to pick out the best turkey from out of "Old Speck's" brood for the Thanksgiving dinner. So he went out to the roosting tree to find out where the fatest ones roosted. Now, it happened that Jake was down on a lower branch and his brother Mike, from a limb above, heard the farmer say: "This is the one we will have." The night before Thanksgiving, Mike persuaded his brother Jake to fly onto one of the higher branches; then after all were asleep, he flew down and sat meekly in Jake's place. Sure enough, the farmer soon came and without further investigation took Mike by the legs and shut him up ready for slaughter.

After he had been killed, but before the feathers were off, little Mary said: "Papa, I am sure this is Mike, and you said we were going to have Jake for dinner." But the family really never knew how their Thanksgiving turkey sacrificed himself to save his brother. —Barbara, in Successful Farming.

RECIPES

Eat Little, but Have That Little Good

Mince Pie.—One cup of chopped cooked meat, one cup of seeded chopped raisins, one cup of cleaned currants, one-fourth cup of chopped citron, one cup of brown sugar, one-fourth cup of molasses, three cups of chopped apple, one cup of meat liquor, salt if needed, one teaspoonful of cinnamon, one-half teaspoon of mace, the same of cloves, one lemon, (the grated rind and juice), one orange, the same way; one cupful of boiled cider. If you cannot get this last, use the same amount of the rich syrup from apple sweet pickles. Mix all thoroughly and cook until the apple looks clear. Fill your tins, which have been lined with rich pastry, cover with the pastry and cook until browned nicely. This is rich enough to cause dreams!

Plum Pudding.—Roll enough butter crackers to make one pint; wash and stem one pound of seedless raisins and put them with the crackers into three pints of milk and let them soak for an hour. Cream together one cup of sugar, and a quarter of a cup of butter, adding a half teaspoon of salt and the same each of cinnamon and grated nutmeg, and six eggs, one at a time, beating each well into the sugar. Stir into this the milk and cracker and raisins, and when the sugar is dissolved, turn into a deep pudding dish well greased with cold butter. Bake very slowly in a moderate oven three or four hours. Stir frequently from the bottom, but not from the sides, during the first hour, to prevent the raisins from settling. It should also be covered at first to prevent any crust forming until the raisins are evenly distributed. This may be made several days before wanted and served cold, or if you wish, steamed. It may be served with any preferred pudding sauce.

Carrots.—Put into a baking dish a layer of carrots, peeled and sliced, thin; sprinkle with pepper, salt, a little flour and bits of butter, then another layer seasoned as before, till the dish is nearly full; cover with sweet milk and cream and bake until tender.

STUPENDOUS STUPIDITY.

Stubbins' wife came into the room where he was sitting. She was twisting herself around in the effort to look at the back of her new blouse. By the tense line and bulging aspect about her lips, he knew that her mouth was full of pins.

"Umph — goff — suff— wuff — sh — fspog!" she said.

The briliant sally caused him to look up.

"Yes," he said, "it looks very well."

"Owf—wuff—so—gs—ph—mf—ugh —light!" was her next remark.

"Perhaps it would look better if you did that," he said, "but still, it fits very nicely as it is."

She gasped and emptied the pins into her hand. Then she said, with asperity:

"I've asked you twice to raise the blinds so that I can get more light," she said. "Can't you understand plain English?"

Of course he might have made an impertinent remark had he been a brute. But he was not a brute. Besides, he knew from past experience that that sort of thing usually led to more new blouses, and he held his peace and did her bidding.—London Answers.

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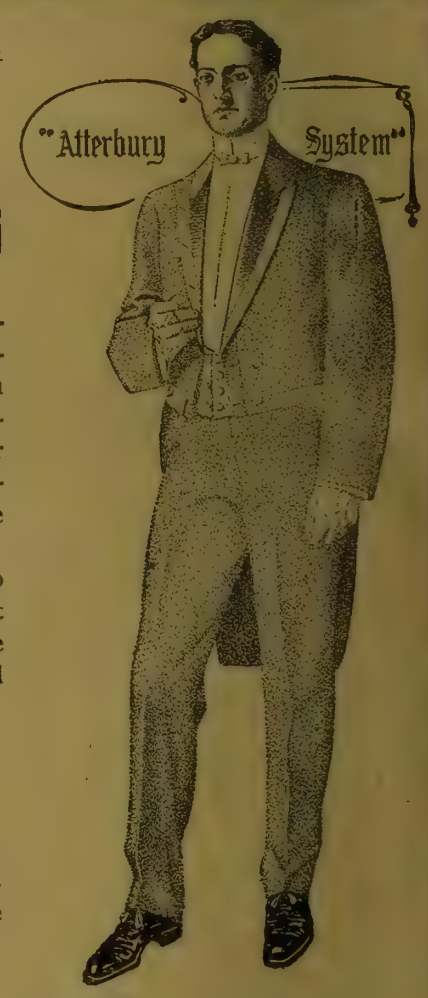

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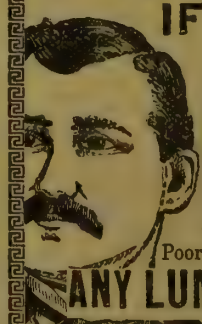

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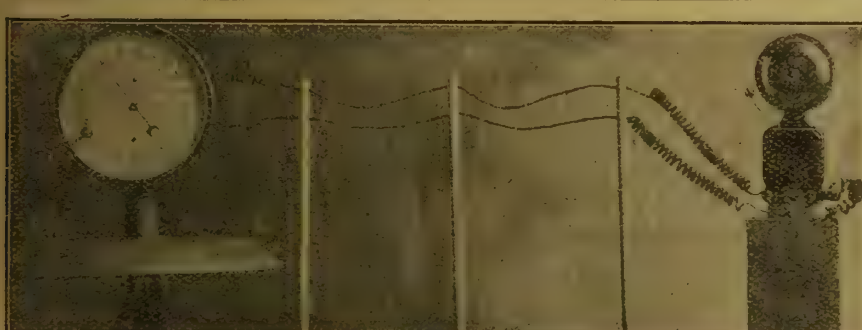

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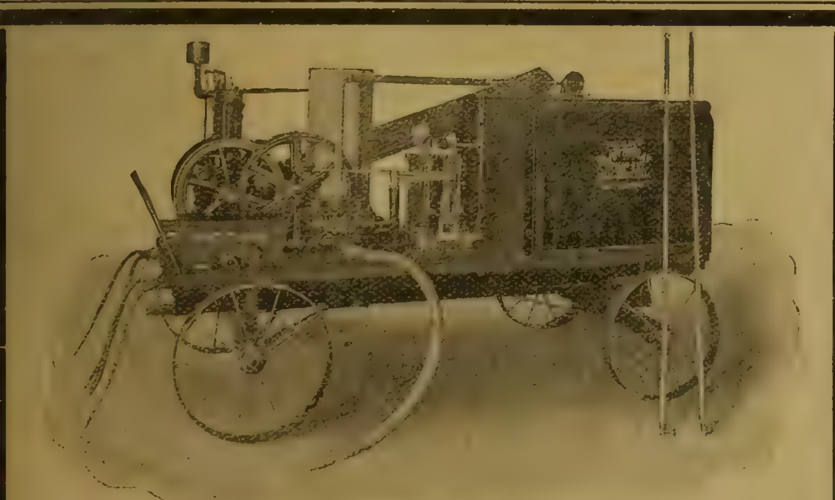

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Los Angeles Markets.

Los Angeles, November 25, 1903.

There has been no change in the butter trade this week and prices remain about at last week's quotations.

Prices have ruled so high on turkeys as to render them almost prohibitive. They sold from 25 to 30c early in the week, but fell off some yesterday, as the buyers turned from the offerings to other meats.

The egg market is firm.

Butter and cheese steady locally, although the northern markets are reported dragging since the rains.

Beans are firmer and jobbers report the lay-down cost gone up.

Potatoes and onions continue firm.

Fresh fruits in good request, especially for apples. Some Cornichon grapes from the North offered daily.

Other commodities steady at jobbing prices heretofore quoted.

Butter.

B. of T. Creamery, 2lb roll		65
So. California, dairy do	.60	62½
Cooking	.45	30
Cold Storage	.50	55

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast. full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.40	.42
Fresh Eastern	.34	.36
Store, case count	.30	.33

Potatoes.

River, per cwt.		1.00
Salinas, do	1.50	1.60
Local, do	1.00	1.25
Sweet potatoes		1.65

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

NUTS.

Almonds, paper shell		14
Almonds, soft shell	.10	12
Walnuts, soft shell	.14	14½
Walnuts, hard shells	.13½	14
Peanuts, eastern	6	7
Peanuts, California	5	6

Vegetables; Mixed.

Onions, yellow, per cwt		1.60
Beets, per 100 lbs		.90
Cabbage, per 100 lbs.		90
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chilies, green, per lb		.04
Caulinower	.40	.50
Celery, per doz.	40	.50
Green Peas		.03
String Beans	.02½	.03
Lettuce, per sack	.25	
Tomatoes, 30 lb box	.40	.50

Fruits; Fresh.

Black figs, 20 lb box		.75
Strawberries, box, fancy	.08	.10
Pears, northern, Bartletts, bx 40 lbs.		1.50
Peaches, per box, 40lb.		1.25
Cold storage Peaches		1.50
Limes, per 100	.90	1.25
Seedling oranges, per box	1.50	2.50
Northern apples, 40 lbs.	.75	1.25
Four tier Belleflower		1.50
Four half-tier, Belleflower	1.00	1.00
Guavas	.04	.05

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08

Poultry.

Spring Chickens, per lb	.17	.20
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb.	.20	.22
Turkeys, cold storage	.24	25

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Hay and Grain.

Wheat hay	10.00	12.00
Barley hay	10.00	12.50
Alfalfa	11.00	13.00
Corn	1.18	1.25
Barley		1.05
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.15
Bran		1.20
Feed Corn Meal		1.40
Middlings		1.45
Cracked Corn		1.45
Oil Cake Meal	1.65	1.75
Chicken Wheat	1.50	1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

SAN FRANCISCO, Nov. 25. 1903.

Really fancy creamery butter was offered in small quantities this week. There was a good deal of medium and under grade offered.

BUTTER—Per lb:

Creamery, extras	32	@33
Creamry, good to fancy	26	@30
Dairy extras	24	@25
Dairy choice	22	@23
Store	18	@20
California storage	24	@27
Eastern Creamery	23	@25

Cheese remains at former quotations.

Eggs and Poultry.

Thanksgiving has made a strong demand for all kinds of poultry, and eggs have been in active demand.

EGGS—Per doz:

Ranch, selected large	47	@50
Ranch, good to choice	44	@46
Store	Nominal	
California storage	28	@32
Eastern	25	@30

POULTRY—Old Roosters, per doz, $5@5.50; young Roosters, $5.50@@6.50; Fryers, $5@ Broilers, large, $3.50@$4 small, $3.00@$3.50; Hens, small, $5@6; large, $6.50@7.50; Ducks, per doz, old, $4.50@5.50; young, $5.50@6.50; Turkeys, per pound, 18@20c; Dressed Turkeys, per lb, 21@23c; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1@1.25; Squabs, $2@2.25.

Fruits and Vegetables.

There has been a level trade in fruits all the week, although not quite up to last weeks' reports. Prices ruled firm with the following quotations however:

California apples, per box, common, 40@65c; choice to fancy, 85c@$1.25; extra, $1.50@$1.75; Oregon, Spitzenbergs, $2.25; Lady Apples, $1.25@$2.

Pears—Per box, Winter Nelis, $1.25@$1.50; other varieties, 50@75c.

Pomegranates—Per small box, 75c@$1; large box, $1.50@$2.50.

Persimmons—Per box, 50c@$1.

Quinces—Per box.50@75c.

Table Grapes—Per small box, 40@65c; crate, 65@90c; large box, nominal.

BERRIES—Per chest; Strawberries, Longworth, $12; large varieties, —, as to quality; Raspberries, $6; Cranberries, per bbl, Eastern, $11@12; Oregon, per box, $2.50@$3.50.

CITRUS FRUITS—Per box: Oranges, new crop Navels, $2.75@$3.25; Seedlings, $1.75@$2; Late Valencias, $3.50@$5; Lemons, $1@$3; extra, $3.50; Grape Fruit, $1.50@$3; Tangerines, per box, $1.25@$1.50; Limes, $4@$5.

All the better varieties of vegetables found a ready market in the buyers for local and country trade.

VEGETABLES—Tomatoes, per box, 50c@$1; Green Peppers, per box, 40@75c; String Beans, per lb, 4@6c; Wax, 4@6c; Lima, per lb, 4@5c; Los Angeles green peas per lb. 4@5c. Egg plant per box, 50@75c; Los Angeles Summer Squash, per box, 75c@$1; Bay, —; Cucumbers, per box, $1@$1.25; Garlic, per lb, 6@8c; Dry Okra, per lb, 12½c; Marrowfat Squash, per ton, $10@$15; Hubbard, $12.50@$20.

ONIONS—Yellow, per ctl, $1.10@$1.40; Australian Browns, $1,25@$1.50.

POTATOES—Per ctl: River Burbanks, 75c @90c; Early Rose, nominal; River Reds, 65@85c; Salinas Burbanks, $1.25@$1.50; Oregon Burbanks, 85c@$1.15; Sweet Potatoes, $1.25.

Dried Fruits, Nuts, Etc.

There was some decline in the prices quoted last week. Today's quotations:

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 4½@6c; Sun Dried, 3¼c @4c.

Apricots—Royal, fancy, 9@10c, choice, 7½c @8½c; Moorparks, choice, 9½@12c.

Peaches—Choice, 5¼@6c; fancy, 6¼@7c; peeled, in bxs, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9c.

Plums—Pitted, 6¾9c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2¾@3c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5½c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1903

crop, f. o. b. at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.35; Two-Crown London Layers, $1.25; Muscatels, Four-Crown Standard, loose, 6½c per lb; do, Three-Crown, 5⅝c; do, Two-Crown, 5¼c; Seedless Muscatels, 4¼c; Seedless Muscatels, floated, 4½c; Seedless Standard Sultanas, 4¼c; Thompson Seedless, Standard Sultanas, lencias, Standards, 4¼c; do, Pacifics, 3¾c; Orientals, 2¾c; Malagas, Three-Crown, 5⅝c; do, Two-Crown, 5c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz, per lb, 8c; choice, 7⅝c; fancy, 12 oz, per pkg, 6⅝c.

NUTS—Per lb: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Peanuts, Eastern, 6@6½c; California, Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shell, No. 1, 12@13c; do, No. 2, 10@11c.

HONEY—New Comb, per lb, White, 12@14c; Amber, 10@12c; Extracted Water White, 5½c@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

Beans.

As a whole, the week's market for beans was quiet, with Pinks and large Whites the firmest offerings on the list under a limited call for overland shipment.

BEANS, Prices per ctl: Large White, $2.25@$2.00; small do, $2.90@3.10; Pea, $3@$3.10; Lima, $2.85@$3; Red, $2.90@$3; Pink, $2.25@$2.60; Bayo, $2.25@$2.50; Blackeyes, $2.15@$2.25; Red Kidneys, $4.25.

DRIED PEAS—Green, $2@$2.25; Niles, $2.50@$2.75.

Live Stock.

CATTLE—No 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6½@7c; No. 1 Cows and Heifers, 6½c; second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5⅜@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13.50@17; Wheat and Oat, $13@16; Oat, $11.50 @$14.50; Barley, $10@13; Clover, $9.50@11.50; Alfalfa, $$9.50@12; Stock, $8.50@10.50.

STRAW—Good to choice, per bale, 55@65c.

FEED CORN MEAL—Choice grades, per ton, $30@31.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26.50@29.

BRAN—Per ton, $22@23.

CRACKED CORN—Choice quality, per ton, $30.50@31.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BRAN—Per ton, $21@22.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.38¾; choice, $1.41¼; White Milling, good to choice, $1.42½@1.52½.

BARLEY—Choice, No. 1 Feed, $1.13¾@1.16¼; off grades, $1.10@1.12½; Brewing, No. 1, $1.18¾@1.23¾; Chevalier, $1.30@1.45.

RYE—Good to choice, per ctl., $1.25@1.30.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.35@1.40; small, do, nominal; White, $1.35@1.40.

OATS—Good to choice White, $1.25@1.35; Red, $1.22@1.35; Black, nominal at $1.40@$1.65.

Hops.

The price for new crop is 19@22c per lb, according to quality.

WOOL.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, November 25.—The volume of trade was not large today, but prices for wheat ruled strong. Cash quotations were as follows: Flour was steady; No. 3 spring wheat, 79@81½; No. 2 red, 82⅜@84; No. 2 corn, 42¾; No. 2 yellow, 44½; No. 2 oats, 34⅞; No. 3 white, 33@38½; No. 2 rye, 52; good feeding barley, 43; fair to choice malting, 53; No. 1 flax seed, 91; No. 1 northwestern 97½; prime timothy seed 2.87½; mess pork, per bbl. 11.25@11.37½; lard, per 100 lbs., 6.50@6.52½; short ribs sides (loose,) 6.50@6.87½; short clear sides (boxed,) 6.37½@6.50; whisky, basis of high wines, 1.25; clover, contract grade, 10.85.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	24,400	26,800
Wheat, bushels	328,900	117,600
Corn, "	335,800	119,200
Oats, "	286,400	191,800
Rye, "	5,800	3,200
Barley, "	141,100	15,700

Chicago Live Stock.

CHICAGO, Nov. 25.—Cattle—Receipts, 7000, including 2000 Texans; steady; good to prime steers, 5.10@5.65; poor to medium, 3.50@4.80; stockers and feeders, 2.00@4.10; cows, 1.25 @4.00; heifers, 2.00@4.60; cows, 1.25@2.30; bulls, 1.75@4.35; calves, 2.00@6.50; Texas fed steers, 2.75@3.50; western steers, 3.00@4.50. Hogs—Receipts, today, 35,000; tomorrow, 35,-000; opened 10@15c lower, closed steady; mixed and butchers, 4.95@4.45; good to choice heavy, 4.20@4.32½; rough heavy, 3.70@4.15; light, 4.00@4.25; bulk of sales, 4.15@4.25. Sheep Receipts, 18,000; sheep and lambs steady; good to choice wethers, 3.65@4.25; fair to choice mixed, 2.75@3.60; western sheep, 2.50@3.85; native lambs, 3.50@5.50; Western lambs, 3.50@5.00.

DAIRY MARKETS.

On the Produce Exchange today the butter market was firm; creamery, 16@24; dairy, 14 @19. Eggs, firm at mark, cases included, 23 @26; cheese, steady, 10@10½.

California Dried Fruits.

NEW YORK, Nov. 25.—The market for evaporated apples continued easy in the absence of important demand; common, 4@5; prime, 5½@5¾; choice, 6@6¾; fancy, 7. Prunes show a rather irregular movement, but on the whole are quiet. Quotations 2½@6½ for all grades. Apricots quiet; choice, 9¼@9½; extra choice, 10¼, and fancy, 11. Peaches quiet; choice, 7¼@7¾; extra choice, 7¾@8¼; fancy, 9¼@10¼.

CITRUS MARKETS

THE ORANGE MARKET.

There is but little to report in the way of an orange market this week on account of very few cars from California having arrived in the different markets. Thanksgiving shipments, or those intended for Thanksgiving, have in may instances failed to reach destination up to date. The cars that have arrived have brought good prices, and the fruit is giving satisfaction, generally speaking, although there are some complaints of its being too green, or rather too poor color, the eating qualities apparently giving better satisfaction than the outside appearance.

Auction markets have been selling a large quantity of Floridas and Jamaicas at low prices, and competition from Floridas in the interior markets as far west as Missouri river points will be keen.

Shipments are going out from the northern part of the state in good quantities, and a few scattering cars are this week being started from southern points. Sizes in Northern California are running rather large, which will more or less handicap consumption of the fruit from that section, while southern shipments, if the first cars are any indication of what can be expected, will show very desirable sizes.

THE LEMON MARKET.

The lemon market continues in quite satisfactory condition, even under liberal shipments from California, as well as an increase of foreign supplies over last year. Californias continue to sell in large Eastern auctions at considerably higher prices than the foreign product. Demand in smaller western markets is quite limited, and there is practically none for any very low grade stock.

AUCTIONS.

NEW YORK, Nov. 19.

A. C. G. Fruit Ex. Blue Seal lemons, $6.50. Red Shield $4.45.

CLEVELAND, Nov. 19.

C. C. U. Pacific Beach, Choice lemons, $2.45, Standard, $1.45.

NEW YORK, Nov. 20.

Arlington Heights Ft. Co., Squirrel lemons, $3.40.

CINCINNATI, Nov. 20.

C. C. U. Alhambra. Sunrise Valencias, $1.35, Excelsior Val. $1.40, Marguerite lemons, $2.50.

NEW YORK, Nov. 23.

A. H. Ft. Co. Silver lemons, $4.70, Squirrel lemons, $3.55. Palm Tree lemons, $3.15.

CINCINNATI, Nov. 23.

A. H. Ft. Co., Palm Tree lemons, $2.20, Elk lemons, $2.30.

Totals to date for season 170 cars of which 135 were lemons.

KNOCK-DOWN TANK.

A monkey-wrench and a hammer is all that is needed to set up one of Mr. Wilson's "Knock-Down" tanks. These tanks are made by one of the oldest mills of Stockton, R. F. Wilson, the owner, showed the writer of this article his factory a few months ago and it was quite interesting to note the manner in which these tanks, also windmills, are put up ready for the farmer. Mr. Wilson has been located near the steamer landing in Stockton a great many years. He gets his lumber direct from the mills by steamer, thus giving him command of low rates. This, with his command of the best material and the fact that he is satisfied with reasonable profits, has given him a large business in the northern and central part of the state. But where he can reach and secure reasonable transportation charges, has sent his tanks and mills into the extreme southern end of the state as well. He will give his prices for goods delivered so that any one may know to a certainty what the cost will be.

Mr. Wilson's business has increased and compelled the extension of his grounds, until he now covers nearly a block with his mill and yards.

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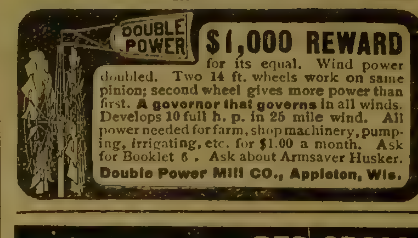

SUMMONS.

No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.

The People of the State of California send greeting to:

Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.

(Seal) C. G. KEYES, Clerk.
By C. O. Winters. Deputy Clerk.

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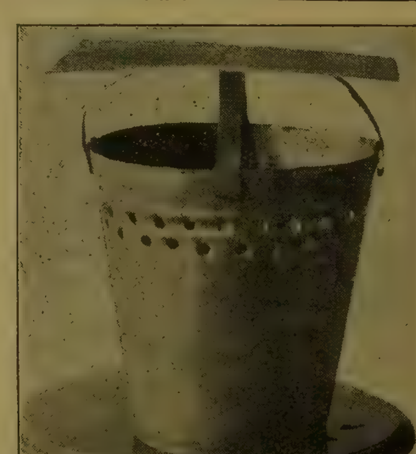

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"I am perfectly satisfied with the results. It furnishes sufficient heat to prevent frost damage during periods of cold weather and does not smut the fruit or trees' I find it even possible with these devices to carry the winter blossoms in my lemon grove through for summer crop."—N. W. Moodey, Glen Ellen Orange and Lemon Grove, Centerville, Fresno County.

"During the recent frosts the oil pots saved our crop except a few on the outside of the ten acres of Valencias."—W. R. Wood, Exeter, Tulare County.

"I found that, although the temperature fell to 20 degrees outside the protected area on January 16th, and again on February 14th, 40 pots to the acre gave me all the heat I needed for protection. I estimate that the crop saved on the Camilla orchard this season is worth $20,000. The fruit is healthy, wtih fine flavor, weight and color."—N. G. Simms, Camilla Orange Grove, Lindsay, Tulare County.

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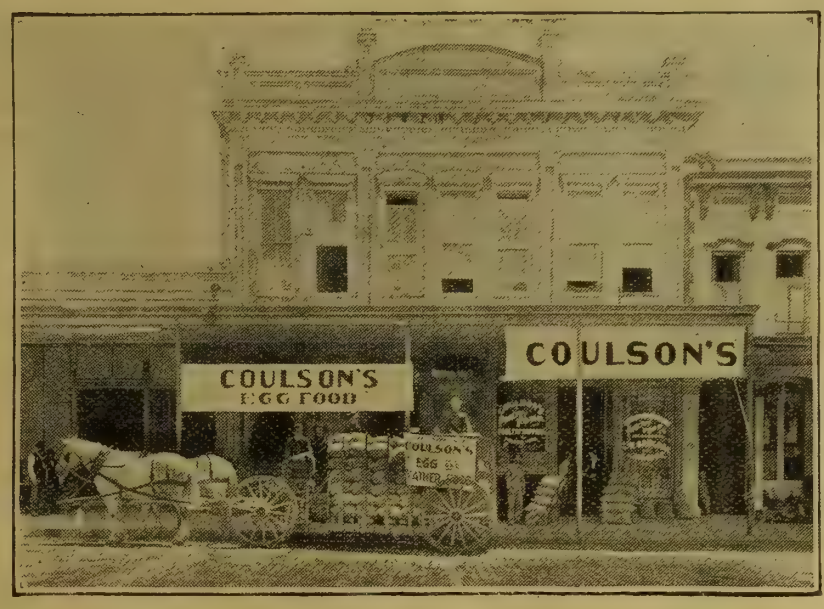
EGGS

Now is the season of the year that eggs are worth having to sell and the more we have to sell the better we like it; therefore, if we are in the poultry business, we want to feed the hens the kind of feed that will make them lay. It is worth something to know just what is good to make hens lay, but there is such a feed and one can buy it already mixed to feed, and it doesn't cost any more than any other feed in the end, because it is richer and goes farther. The Balanced Ration Egg Food, prepared by the A. R. Coulson Company of Petaluma, is what the Petaluma poultrymen use to make their hens lay. Not only Petaluma poultrymen, but poultry raisers all over the state of California are beginning to find that it is more profitable to feed Coulson's Balanced Ration Egg Food than any other kind of feed.

A. R. Coulson, the chicken doctor of Petaluma, has made a special study of the feeding problem and he has got it down to a science, and so successful has been the use of this food that $25,000 was invested by the company to manufacture this feed and sell it as cheap as possible. All the ingredients are purchased in carload and even shipload lots, as steamers and schooners come daily to Petaluma loaded with



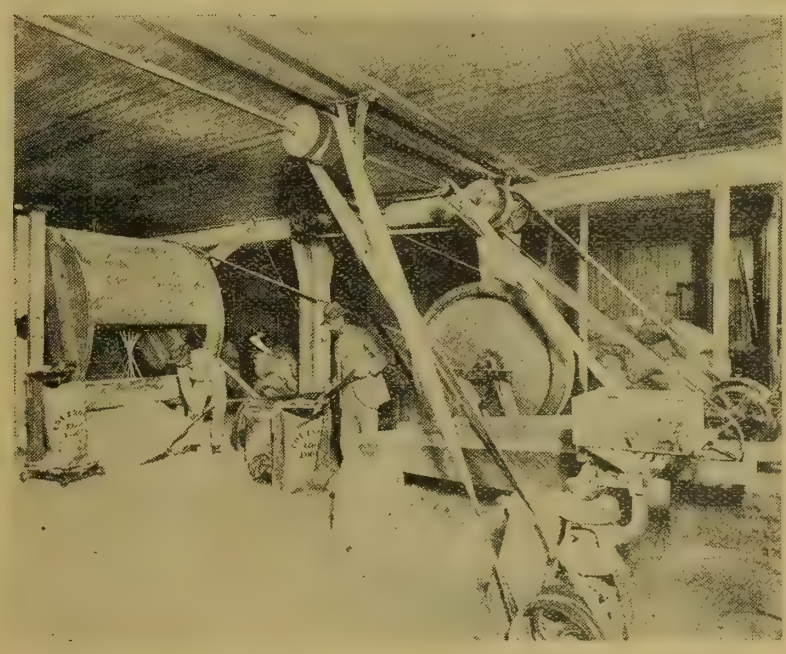
grain and feed. By purchasing everything in immense quantities they are able to use the best of everything needed in the feed and still be aole to sell it to the poultrymen at reasonable prices. The granulated or fine ground dried beef blood is prepared at the largest packing houses in the world, at Kansas City, and shipped to the A. R. Coulson Company, in 25 and 30 ton lots (the value of a big carload of this article is nearly $2000.) Fine ground beef meal and beef scraps are also shipped from the packing houses at Omaha and Chicago.

There are about twenty different articles used in preparing Coulson's Egg Food and they are all purchased in large quantities and mixed in a large electric mixing machine (the only one like it on the Pacific Coast), and from 250 to 300 sacks a day are turned out at this factory.

It is a good thing for the poultrymen to get this feed already mixed in this way, for you only have one profit to pay, where if the poultryman was to purchase each article separately he would have to pay a profit on each article used, and the more expensive articles he could not afford to use, as on small quantities of some articles would cost the poultryman if he purchased it a few pounds at a time, 10c or 12c a pound, so that he could not afford to use it; but where it is purchased in 30,000 or 40,000 pounds at a time the same article can be had for 2 or 3 cents a pound; therefore it is much cheaper to buy Coulson's Egg Food already mixed and save time, labor and expense. Besides, when you get Coulson's Egg Food you can rest assured that it is prepared just right and contains everything in the right proportions, and is more thoroughly mixed, being mixed in a machine that mixes every portion together so thoroughly that every part is just alike, after it comes out of the machine. If you want to get eggs you must feed that which makes eggs. A hen is simply a machine; feed her properly and feed enough of the right kind of feed and you are bound to get eggs.

In order to get eggs out of a hen we must put eggs into a hen, or in other words, we must feed right, and Coulson's Egg Food is just the feed that Biddy needs to help her make the eggs.

You can get Coulson's Egg Food at most any feed store, or, if not, you can send to factory at Petaluma and have it shipped by freight.



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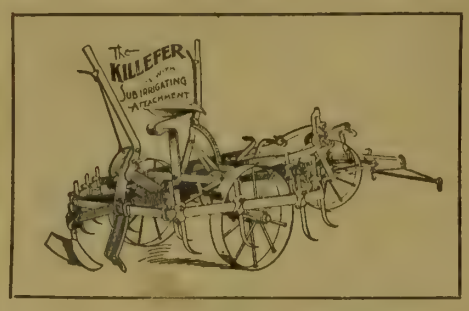

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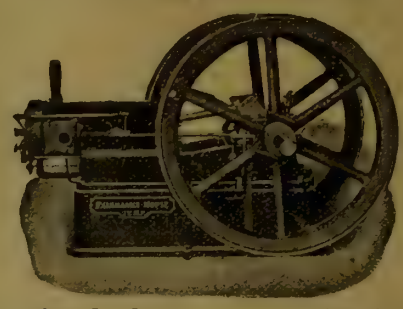

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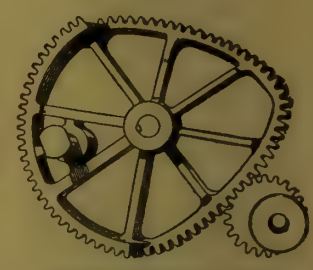

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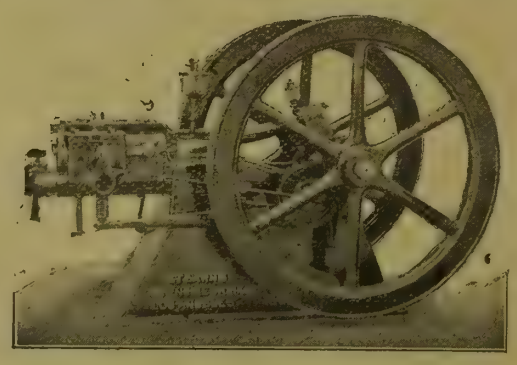

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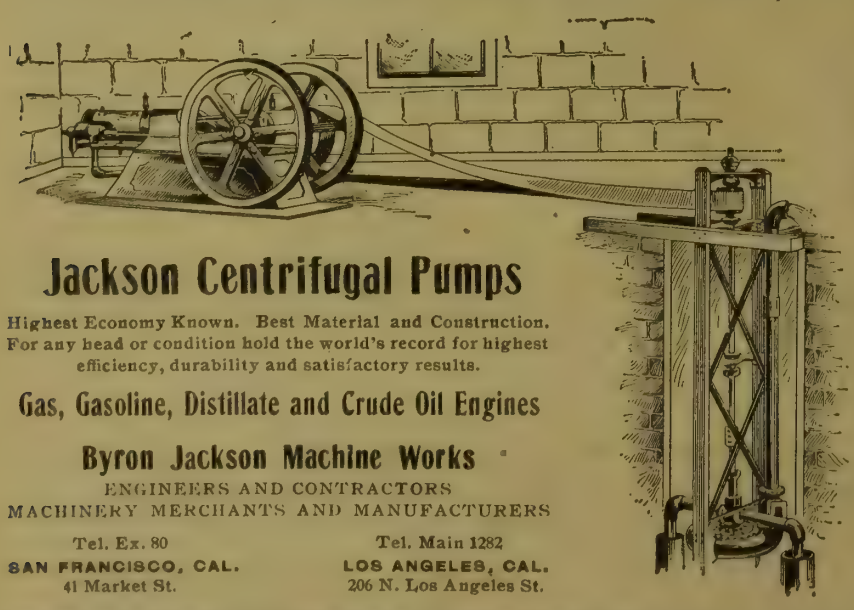

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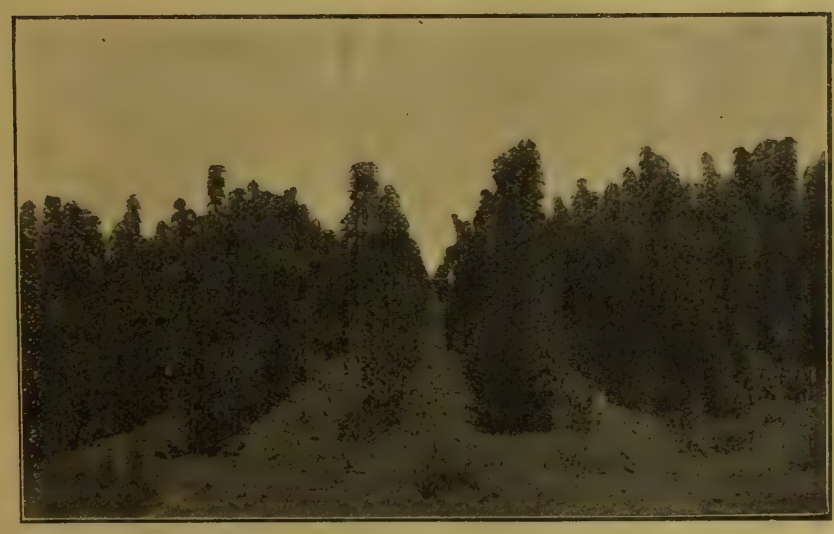
California Cultivator

LOS ANGELES SAN FRANCISCO

DECEMBER 4, 1903



IN DINUBA, WHERE GRAPES GROW BIG AND TREES GROW TALL.

Some time since we gave a cut of scenes in Dinuba, particularly on the ranch and nurseries of F. H. Wilson, owner of the Fresno Nurseries. Those cuts were not satisfactory to us, hence we reproduce two of them above. One shows scenes in the nursery devoted to Smyrna fig propagation and shows the men busy irrigating. This view was taken some months ago, before the figs had attained the growth that they now have. They are the genuine fig of commerce. The other picture shows a block of young plum trees. Mr. Wilson is standing between rows of the trees, yet is almost hidden by the luxuriant growth. They are fine trees, as are thousands of others in Mr. Wilson's nurseries.

CIROULATION THIS ISSUE, 9,800

Largest Poultry Supply House in the United States

The Improved Los Angeles Incubators

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DIE in the SHELL

The Improved Los Angeles Incubators are substantially and scientifically constructed on the simplest possible methods, and will hatch the strongest, healthiest chicks and ducklings with the least attention and expense.

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FOR THE PROMOTION OF

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Is a properly balanced quantity of ten different seeds, grains, charcoal, grit and a specially prepared meat meal, making it a complete feed in itself. Poultry raisers admit it is almost useless to endeavor to raise little chicks without Peerless Chick Feed.

100-lb. Bag, $4.00; 50-lb. Bag, $2.00; 24-lb. Bag, $1.00; 5-lb. Package, 25c.

35c EACH; 3 FOR $1.00

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LEE'S EGG MAKER

Will fill the egg basket; will make chicks grow; will keep fowls healthy; will strengthen the fertility of eggs.

25-lb. Pail, $2.00 **2½-lb. Package, 25c**

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5 gal., $4.00; **1 gal., $1.00;** **½ gal., 60c**

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315 South Main St. Los Angeles, Cal.

Largest Poultry Supply House in the United States

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 23 LOS ANGELES, CAL., FRIDAY, DECEMBER 4, 1903 Subscription $1 a Year

THE APPLE ORCHARD

Mr. F. W. Maskew, in his address to the Farmers' Institutes, lays down the business proposition that to be a successful orchardist, one must, among other things, do three things specially. First plant the orchard properly. This requires a selection of the fruit trees adapted to the soil, and the climate, Second, plant trees adapted to the market if the object is to secure commercial results, and third, plant only the best of the finest varieties, and then tend them as one would tend an expensive pure blood cow. If the orchard is for home use, the flavor of the fruit should be taken into consideration, also the time of ripening, so as to provide for the different seasons of the year. If the object be to secure a commercial orchard, location, with reference to the nearest city, or cold storage should be taken into account. One can do well on summer and fall varieties if near a market. While if away from markets and storage, one should plant varieties that will keep well; fruit that can be handled and stored without injury. Some varieties spoil easily in handling, and some scald and turn black in storage or soon after taken from it, as the Huntsman's Favorite and the York Imperial, otherwise good apples.

Trees must be selected with reference to the time or age when they begin bearing, also with reference to the quantity of fruit borne annually.

* * *

Size and Age.—The variety of apple having been selected, the next question to consider is what size or age of tree to plant. Most well advised apple orchardists say, a tree two years old is the most successfully grown. This two year old apple tree you can train to make the proper head. A proper head must have a center. That is, not two, three, or more limbs of an equal length, but one larger and extending above all the others. The branches should be trained back to make limbs, not forks.

Prepare a hole large enough for all the roots. Head the tree low. Do not plant deeper than the tree stood in the nursery. Too deep planting, says John Y. Stone, the apple king of Iowa, makes "root rot." The tree should be the largest at the surface of the ground, and there is where the roots should start.

Fine stock breeders tell us to look to nature if we want a correct guide for our efforts, so in the planting of trees of all kinds we should "look to nature," for God knows how to grow a tree or a forest.

Look at the oak, elm, and all the trees including the seedling fruit tree, it has roots spread from the surface of the ground. Nature has a reason for this to prepare the tree roots in spring and autumn for the circulation of the sap, and roots that should be near the surface to receive the heat and magnetic influence of the sun, and give the tree the greatest circumference at that point. When they are planted too deep in the ground, they die. Trees will sometimes try to correct their errors by sending out a new set of roots at the surface of the earth. We hunt with a microscope in vain for the cause of the "root rot," which we ourselves have produced by banking the earth too high around the trees.

As to Varieties.—The primary conditions for planting having been considered, the next important matter to determine is what varieties to plant. Here the individual choice of the orchardist must largely control the seting of the trees. In California most of the choicest varieties of apples are grown or could be grown with the same care that is exercised in other states. This is the opinion of men like Mr. Maskew, and Mr. Wilson of Long Beach.

Perhaps H. G. Keesling, of Santa Clara, is as good authority on the kinds of apples to plant to produce a satisfactory orchard as we have, and we here quote from some personal letters, recently received from him on this subject.

"The nine best sorts of family and market orchard apples, if a succession is desired, are given in the order of their ripening, and give a constant succession of fruit from the time Red Astrachans begin to color, about July 1, until the Newtowns are all gone, which will be nearly, if not quite, eleven months later, if they are properly handled and stored. Red Astrachan, Red June, Gravenstein, Skinner's Seedling, Fall Pippin, Bellflower, Jonathan, W. W. Pearmain, Newtown Pippin.

"The above may well be called 'the big nine,' for planting in Central and Southern California," and will all make thrifty growth and bear good crops if properly cared for.

It is peculiar, but true, that while I have known and grown these varieties for the past twenty-five years or more, in this valley, and do not now know of a single variety that I would exchange for any of them in its season, yet, I am still planting and testing new (to me) varieties. About fifty varieties will come into bearing next year and if ten of them prove worthy of a place in a California orchard, I will be more than satisfied.

The Red Astrachan.—This is our earliest sauce apple, ripening here about July 1, and it contains a flavor that for sharpness and snap is not found among the early apples. Almost too sharp to eat from the hand, but excellent for sauce and pies.

One or two trees will supply an average family until Gravenstein is ready. The tree is a strong grower while young and is inclined to make a close leafy top, which puts off the bearing age two or three years. Judicious thinning of the branches should be practiced from the first, in order to get apples early and to form a top for bearing and long life.

(Continued on Page 449.)

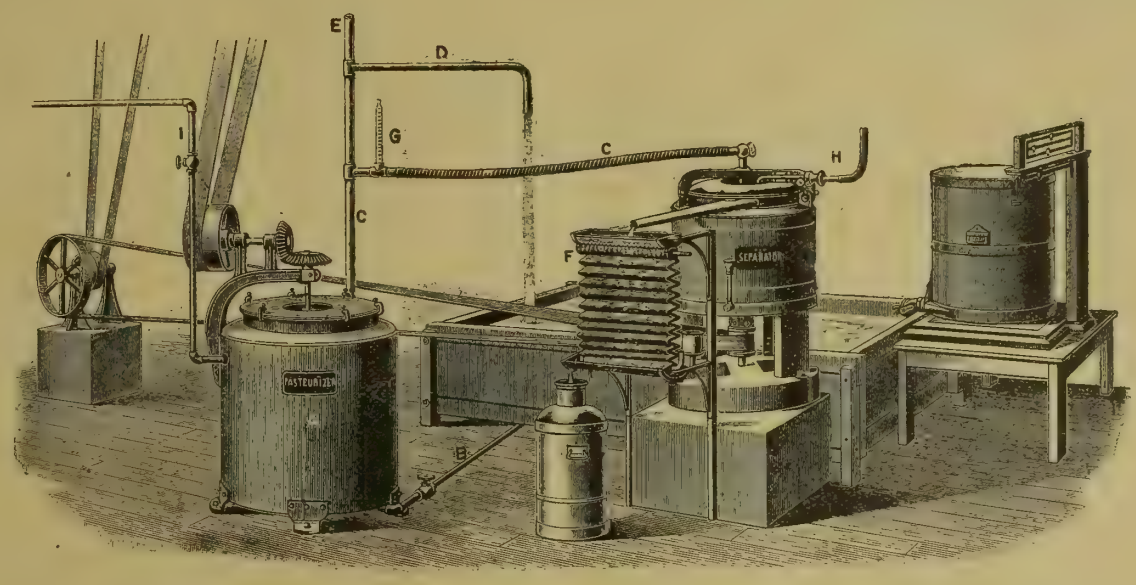
LOS ANGELES POULTRY SHOW.

All readers of the Cultivator will be interested in the poultry exhibit at Hazard's pavilion, December 8-12. This will be a very interesting meeting, as 150 birds are exhibited from San Francisco and a number from other points. Several prizes are offered for the best birds shown, The Times Eagle Trophy, the Riverside Fanciers' challenge cup are especially fine.

The Petaluma Incubator Company, the Los Angeles Poultry Association, Mrs A. Basley, the White Plymouth Rock club and the National White Wyandotte club each offer fine prizes for the best display of birds.

An effort is being made by the California Creamery Association to secure the National Butter Makers' Association convention for 1905. To this end it is proposed to make a mammoth exhibit at St. Louis next year.

Five thousand of the public school children of Missouri are being taught the rudiments of agriculture and it is expected that as soon as competent teachers can be secured agriculture will be taught in all the rural schools of that state.



The above cut represents the milk being separated after pasteurizing, as explained in the article on page 444. Milk flows through supply pipe and regulating receiver B from Receiving Vat into Pasteurizer A, is Pasteurized and raised through pipe CC into Separator. Cream flows over Cooler F, skim-milk passes out tube H to skim-milk Vat. I, steam supply pipe and regulating valve. G, Thermometer. If preferred, the milk can be fed direct to the cooler instead of passing through the Separator, which is generally done in dairies.

IMPORTANT MEETING.

The annual meeting of the California Water and Forest Association will be held in accordance with the provisions of its by-laws on Thursday, the 10th day of December, 1903, at 10:30 a. m., in the rooms of the Chamber of Commerce, 307 Sansome street, San Francisco, Cal.

After the reports of the investigations have been received it will be known whether it will be necessary or not to appear before the next legislature of California with a request that the appropriation made by the state at its past legislature for the purpose of conducting investigations in connection with the Departments at Washington shiuld be continued for the years 1905 and 1906.

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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FRANK HONEYWELL, BUSINESS MANAGER

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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Dec. 4, 1903

Circulation this issue 9,800

ITEMS OF INTEREST.

Great Increase.—State Controller E. P. Colgan and his office force have made up the total of property valuations in the state as returned by the auditors of the various counties, and a considerable increase over the valuations of 1902 is shown.

The total assessed valuation, exclusive of railroad properties, for 1903 is $1,513,756,482. The total assessed valuation of railroads is $84,187,758, making a grand total of $1,597,944,240.

No other state in the Union has made such rapid strides in wealth during the year 1902 as California.

* * *

Panama Must Ratify.—The decision reached by the president that the Panama government must ratify the Canal Treaty before this country takes formal action on it, is wise, of course. This government does not propose to be caught as it was with Colombia. After Panama has formally ratified the treaty the Senate of the United States will do so and it then remains to be seen if Colombia wishes to engage this nation in a "death struggle," to retake the Isthmian Canal country.

* * *

The Compton Institute. — A highly interesting farmers institute was conducted by Professor A. J. Cook assisted by an able corps of special assistants on Saturday of last week. The usual preliminaries incident to an institute of this character were indulged in, such as the address of welcome and response, then the regular program followed. The papers and discussions were all of interest, and some of them of a very high order. Mr. F. W. Maskew devoted an hour to the apple, and in this time spoke at length on the early history of the apple and its gradual perfection to its present excellent standard. He divided his topic into three divisions. Soils adapted to the best growth of the apple, varieties, which includes the kinds best calculated for Southern California, and the care of the orchard when once set out. He advocated planting only the best of the best kinds—the choicest varieties. His appeal to orchardists to tend their trees, as they should their finest stock was strongly put and well received by the large audience present, a half of which wre fruit and apple growers.

Mr. Moore, read a most excellent and practical paper on the up-to-date dairy. It goes without saying that his argument was based on the necessity of procuring the best stock for the dairy, and then giving the stock intelligent attention. He embraced three principles as essential to success in dairying, good breeding, perfect sanitary regulation for the care of milk, vigilance in looking after the cow and kindness, patience and ability to win the confidence of each individual animal. Many intelligent thoughts were presented in this paper and it was well received.

Mrs. M. E. Sherman of Fresno, presented a paper on dairy interests which took a somewhat broader line of discussion, than the one read by Mr. Moore. Mrs. Sherman's experience in this branch of California industry makes her papers of more than common interest as well as her treatise on vineyards and kindred subjects.

A very interesting discussion quite generally indulged in, followed the reading of Mrs. Sherman's fine address which evinced a keen appreciation of the merits of the subject by those engaged in dairying. The general interest manifested in the proceedings of the institute was greatly appreciated by Prof. Cook and the local members who had the meeting in charge.

* * *

Delay in Transmission.—It is asserted that the delay in the transmission of goods from the Pacific Coast to Eastern markets is being attended with great inconvenience. At a later period when shipments are crowding the result of this inexcusable delay, would be seriously felt. The present delay is affecting prune and raisin sales more than any other commodities, and causing jobbers to be slow in placing orders for large amounts. A New York correspondent writing under date of November 23, speaks somewhat discouragingly of the raisin market at this time, for the trade regards the price as too high and the situation too uncertain, as to maintenance of price by the association to permit anything more than hand-to-mouth purchases.

The situation may change after February 1, the time to which the present prices are guaranteed by the association.

* * *

Commission Cannot Act.—Attorney-General Webb of this state has given an opinion to Gov. Pardee to the effect that the State Commission of Horticulture cannot take possession of and destroy trees, vines or orchards and vineyards which may be affected with contageous or infectious diseases.

This opinion ought not to obtain, for if the owner of an infected orchard will not take the time and trouble to clean it, it should be cleaned or destroyed by some properly constituted authority, else it may work the ruin of a whole section.

Nearing the End.—Claus Spreckels, the millionaire sugar king, who is regarded as the richest man on this coast, is ill, and his age and the fact that he recently had a stroke of paralysis make his condition critical. He is probably nearing the close of his active life.

* * *

Failures in October.—Failures in commercial world, as shown by the mercantile reports for October, were confined largely to the manufacturing industry. Compared with last year there was an increase. Bank suspensions also were increased. Settlements of accounts and liquidation of securities is probably the direct cause of the decline in the latter interest, and in this particular indicate, in a modified degree, business depression. We may expect more of this same depression as the annual settlements of the past year are made, but it will not be widespread enough to create a general slump in values. It is simply the collapse of bubbles which were created "on wind." In the face of the prosperity of the agricultural sections and the activity in general trade, as evidenced by railroad movements, faith in the future is amply justified.

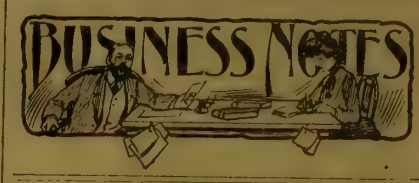
* * *

Farmers' Trust.—A fifty million-dollar Farmers' Trust is the latest venture along promotion lines. The farmers of this country are getting tired of producing for the benefit of capitalists and middlemen. To put it the way a leading farmer of Kansas states, "The producers are getting tired of trusts and middlemen, and we have declared it time for the farmer to find a way to sell his products direct to the markets. The beef that you pay eighteen and twenty cents a pound for, we have to sell as live stock to the middleman for one and a half cents a pound. Wheat would bring us from five to ten cents a bushel more if we could wipe out the middleman. Our people are sick of it."

If the farmers of the United States combine, as they should, to regulate prices for products, the day of the middleman is passed.

* * *

Supreme Court Decision.—A case of general interest affecting the rights of telephone companies on private grounds has just been decided by the Supreme Court of Kansas. The telephone company secured the right from the Board of Supervisors to erect poles on the public highway. In doing this a pole was set so as to inconvenience a farmer, who requested the company to set the pole to one side. The request was refused. The farmer cut down the pole and was arrested. On the hearing he was discharged. Suit was then entered against him for damages. Again he won. The case found its way into the Supreme Court of the state. This court has just handed down its decision; it holds that the telephone company had no right there; that the county authorities had no right to grant franchise for poles, as that use was not within the easements granted by the land owner, who had dedicated a part of his land for road purposes; that the use of the road for telephone purposes was not legitimate, and that the farmer was within his rights in removing the pole; that the telephone company must secure the right to place poles, from the abutting land owner before it can legally erect its poles. This is sound doctrine and doubtless will be followed by courts of equity throughout the country in cases involving the authority of boards of Supervisors to interfere with the rights of private property.



STILL GROWING.

Our readers will notice that the number of papers for this issue takes a notch higher. We had hoped to add two hundred again this week, but our men in the field sent us in less than their usual quota, owing we suppose to too much Thanksgiving. However, the Cultivator is growing and the 10,000 mark is now in sight—only two hundred more subscribers needed.

That the Cultivtaor is appreciated by its old readers is daily attested by letters received. Follwing is a sample:

Nordhoff, Cal., Nov. 30th.

Cultivator Publishing Co. I enclose you two dollars arrearage on my paper, sorry to have neglected it so long. I think a whole lot of the Cultivator. I read every word; advertisements and all. Yours very truly. —F. Udell.

* * *

GOOD RESULTS.

Geo. R. Tyler of Pomona, was a caller last Saturday and contracted for an advertisement for his pruning saw for the season. He stated that the Cultivator ad. brought him better returns last season by several times than any other paper he used. Mr. Tyler has a good saw.

* * *

Among our new advertisers this week are, T. Frank Anderson, who has bought the stock of the White Plume Poultry ranch, owned by Mrs. Basley. He ought to have a fine business as both stock and name is well and favorably known.

* * *

Jas. Mills of Riverside is calling attention to his seed bed citrus stock. Mills & Masters, also of Riverside, have a promiñent ad. in calling attention to their fine stock of citrus trees; and Richman & Mills of Fullerton, one of the old stand-by firms, make their annual announcement, laying particular stress on their stock of walnuts and apricots. Another old established firm who again ask for their share of patronage is the California Nursery Co., of Niles.

* * *

The Sharples Tubular Separator people are to be represented in Los Angeles by W. E. Hyer & Co., who have opened up a good stock at 108 North Los Angeles street. The company will also sell the Sunset Incubators.

* * *

A new advertiser in the Cultivator columns, although old established at Oakland, is the Jubilee Incubator Co. This firm have for years been putting out a steadily increasing number of machines, which prove their merits.

DOWN TO THE BONE.

The original Bristow report on the Postoffice Department investigation, with the testimony, comprised nearly 700,000 words. Bristow made a 50,000 word extract. Then, by order of the President, he was told to cut the 50,000 words to 25,000, and, later, to 12,500. A short time ago the President called in Mr. Bristow and told him to cut the 12,500 words to 6,000. Bristow threw up his hands.

"I can't, Mr. President," he said. "It is down to the bone now."

"Why not?" asked the President. "You were an editor out in Kansas before you became fourth assistant postmaster-general, were you not?"

"Yes," said Mr. Bristow; "but even a Kansas editor has to have some language with which to express his thoughts." Washington Star.

CITRUS STOCK

Season **Navels** **Navelencias** **Valencia Lates** **1904**

All stock two years old on four-year-old roots. First-class in every particular. Large, healthy, clean. No better anywhere. Write us for prices.

Mills & Masters

JAS. MILLS, Mgr. RIVERSIDE, CAL.

RIVERSIDE NURSERIES, Riverside, Cal. Fullerton, Cal., Oct. 24, 1903.

Dear Sirs—It is with no small degree of pride that I point to the orange orchard that I set out in June, 1902, with stock from your nurseries. I am not acquainted with any orchard of similar age that has done so well, and is today so promising. This certainly speaks in no uncertain language of the character of the stock coming from your nurseries. Very respectfully, CHARLES CHAPMAN.

BY J. W. JEFFREY, LOS ANGELES

SPECULATING IN CITRUS FRUITS

There are a few yet remaining who honestly believe that oranges and lemons should be bought on the trees or in the packing house, at least. Or, as a last resort, the fruit should fall into the hands of a purchasing merchant not farther toward the market than the loaded car. We do not presume that any one imagines such a practice possible, or believes it has ever held in the disposition of a citrus fruit crop to any great extent in the past. But let us suppose the present crop was to be moved in full by the actual purchaser of the fruit. It must be admitted that it would be a speculative movement, and rightly so should the purchaser possess himself of the fruit by payment. Every speculative movement should be preceded by a still hunt for fruit at the lowest prices. This period of quiet purchasing should be continued as long as possible by the merchants in deference to their own interests. It would be to the buyers' interest to suppress all information that might have a tendency to stiffen prices, and they would certainly have all information that would indicate a lowering of prices and would offer accordingly. Under this system the grower would have all the stimulation of speculating between early and late prices, without the means of determining the possibilities of the trade, much less of its probabilities. It has been found impossible to even supervise the speculative tendencies of the country, much less to control them. The only means of control is the diffusion of market intelligence and the fruit growers under the home-selling plan would have no means of securing that. No matter what the necessities of the trade would be as to demand, or the exigencies of importation, the fruit farmer would be at the mercy of the buyers without his own means of securing reliable market information.

Speculation in farm produce is a close contingency. None but the alert may take part in it with safety. Brokers' exchanges publish the prices of speculation futures, or it is published for them, and even in this gambling in farm produce the producer has some information as to what the future value of his commodities may be. The elect are those who have by some hook or crook obtained information as to the range of supply and demand, the competition from other classes of produce, or, in a general way, the probable course of the markets. This information is not published. It is surpressed and the only recourse of the farmer is to supply his own information, which he cannot do unless organized. His safety is dependence upon the natural course of the markets, which do not fluctuate from unnatural causes. By selling his own goods in the open market he not only protects himself from his own speculative tendencies, but gets all there is on the level of a permanent trade.

In discussing home-selling, which is still a glittering ideality to many orange growers who were not in the business ten years ago, we have assumed that the purchasing merchant is honest, or that he pays cash upon delivery of the fruit. With all this he must in a large measure control prices or his speculative business cannot be conducted upon a safe basis. He must determine the margin between his offer and the probable course of the market. He must assume all risks of transportation, or delivery, and his offer is guided by his idea of what that margin should be, or the amount of the risk of delivery. He is a "bear" at this end of the line and a "bull" at the other, and works havoc with the grower here and the consumer there. There is nothing in the laws of supply and demand that appeals to him. The producer must be protected and the consumer cultivated, but speculation is the enemy of all this, and buying a perishable commodity in the field is the opportunity of neglecting the elements that lead to permanent and profitable business between the producer and consumer.

CALIFORNIA FARMS.

"There are 72,542 farms in California with an average size of 397.4 acres." says an article compiled from the California Promotion Committee. One thousand, four hundred and ninety-six of these farms are under three acres in extent; 5342 are between three and ten acres; 8236 are between ten and twenty acres. The larger farms are as follows: 13,110 are between twenty and fifty acres; there are 8067 between fifty and one hundred acres, and 13,196 farms between one hundred and one hundred and seventy-five acres. There are 4635 farms ranging from one hundred and seventy-five to two hundred and sixty acres; 8370 between two hundred and five hundred acres; 5329 between five hundred and one thousand, and 4735 forms more than a thousand acres in extent.

ORANGE GROWERS' ASSOCIATION.

At Redlands, last week, an association was perfected known as the Highland Independent Orange Growers' Association. The capital stock of the association is $10,000. The following are the officers elected for the coming year: D. R. Seely, W. F. Grow, Thomas W. Frye, F. A. Fletcher, John Cleghorn, R. E. Longmire, J. P. Linfesty, J. H. Bagwill and W. H. Marks.

Light rains have fallen in the northern part of the state during the past two days. The ground is now well soaked with water and farmers are busy seeding. In the southern part of the state the week closed with abnormally hot weather and drying land winds. At Los Angeles the weekly mean temperature was 10 degrees in excess of the normal and for several days the daily maximum ranged in the 90 degrees.

Drying land winds prevailed, which parched the soil and made irrigation as necessary in midsummer; water was in as great demand as at any time during the season, and places report streams lower than at this time last year. No rain has fallen since September, when light showers occurred; farmers are anxiously looking for good rains to soak the soil and put an end to irrigating.

Some sections report oranges as not coloring as fast as expected, while others state that the fruit is ripening fast, and picking and shipping have begun.

Dry plowing and seeding continue, but ranchmen generally are waiting for rain.

Stock is needing rain as feed in some sections is running low.

A NEW THERMOMETER.

J. P. Bolton of Fresno, Cal., has invented a new and very useful thermometer for use in orchards to announce the approach of frost. In using methods of preventing frost damage the one great drawback has been to know just when to smudge. The fruit grower often retires at night thinking everything safe, only to wake in the morning and find that frost has destroyed his entire crop. Then smudging is of no avail.

The Bolton Electric Alarm Thermometer is especially built to overcome this difficulty. The alarm attachment is so constructed that it can be set at any particular temperature that the operator may think damaging to his crop, and when the temperature reaches that point the alarm rings, thus giving timely warning to fire the smudges. The thermometer can be set at any distance from the sleeping apartments, where it will be able to make the most accurate registrations. The alarm can be placed at the head of the bed, or in any convenient place in the room to insure the awakening of the occupant.

Did you ever hear a man crack a joke while he was teaching a calf to drink from a pail? Send us his name; we want to publish it from the housetops.

FOREST RESERVES.

Messrs. Roth and Potter, who are experts of the United States Bureau of Forestry, in company with four other experts from the same bureau, will at once begin an investigation of the temporary forest reserves now in existence in Northern California, with a view to recommending those that ought to be made permanent. There are 12,000,000 acres of land included in these temporary reservations and the determining of what shall be included in the permanent reservations is considered of vital importance to the people of that part of the state; and in relation to future effect on agriculture and timber interests the decision touches the welfare of the entire state.

START IN LIFE ON THE FARM.

The young man who is thinking of leaving the farm for the city may learn when it is too late that while he may earn more in the city he cannot save as much as he could on the farm.

If his object is to secure a competence, he in nine cases out of ten will do it the sooner on a farm. There are more chances to spend money in the city than in the country, while the cost of living is higher.—Twentieth Century Farmer.

Careful observers of the times have not failed to make note of the many things in which the general government is assisting the states, and especially the farming classes. We have the anti-shoddy law, the pure food law, the appropriation to assist miners in hydraulic mining, laws for promoting irrigation, for the establishment of experimental farming, etc., etc. Now it is proposed that the general government shall engage in a comprehensive system of county road building. Uncle Sam is also looking for suitable lands in California which he may buy, on which to raise seeds to be distributed by congressmen to their constituents. A few years ago such paternalism would have been vigorously opposed.

The Santa Fe is surveying and will build a railroad from San Francisco to Eureka. Engineer A. G. Whitleck who is conducting the survey, in a report says:

"I find a solid belt of redwood extending along the coast from Sonoma county to Humboldt. It is not narrower than six miles wide at any point and in some places the forest tracts are twenty-four miles in width.

Santa Fe officials have estimated that the road will pay for itself in twenty years, and that the rich timber traffic will hold out another twenty years.

A scientist declares that a sunflower sucks up 145 pounds of water during its lifetime. Some philanthropic gentleman should sow a few pounds of sunflower in Wall Street.—Napa Journal.

LAND AND WATER

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

AMOUNT OF WATER NEEDED BY CROPS.

Knowledge concerning the amount of water needed by various crops grown in warm dry regions entirely by irrigation is a matter of great importance in planning irrigation enterprises and in calculating what can be grown with a given water supply. Data upon the subject are gradually being accumulated, and there will soon be little justification for the making of such miscalculations as have heretofore been made in some parts of the southwest. Records of the amount of water applied to various crops have been kept at the Arizona Station farm for several years, and the amounts used there are undoubtedly about those required to grow the same crops in other warm interior valleys of the southwest. In stating the amounts they are expressed in the depth of application of the water.

* * *

Grain crops, being grown during the winter while the weather is comparatively cool, and evaporation correspondingly low, do not require as much irrigation water as do the same crops in some cooler regions where they are grown during the summer. The amount needed varies somewhat with the soil and the winter rainfall, but three or four applications of water each to the depth of six to eight inches, or eighteen to thirty inches deep in all is usually ample to produce a good crop. Part of this amount is usually applied before plowing for seeding, and a satisfactory crop can usually be grown with less water by this procedure than by sowing dry in soil and applying all the water subsequently. If the seed be sown in moist soil, no irrigation is ordinarily necessary until the grain has covered the ground well; and consequently the surface does not become baked and give off water as rapidly as is the case when water is applied soon after seeding.

* * *

Alfalfa, in order to give the best results, requires the application of four to six feet of water during the year. This crop is especially well adapted to a region with a fluctuating water supply, as is the case with most localities depending upon a stream for its irrigation water. During the first few months after seeding alfalfa must be kept supplied with plenty of moisture in order to get the young plants started; but after a stand is secured water may be applied quite irregularly, the crop ordinarily varying with the amount of water applied, within certain limits. Alfalfa being very deep rooted, water may be applied freely during the winter when it is available in larger quantities than during the summer, and then may be withheld entirely during the latter season. Two feet in depth may be applied to advantage just before, or during the early part of the growing season, and then just enough applied between each cutting to keep the soil about the upper roots moist. To be sure, it is better to be able to apply the water more systematically, but if this cannot be done, there is no crop that will endure irregular irrigation as will alfalfa.

* * *

Root-crops, such as potatoes, beets, carrots and turnips, grown during the cooler part of the year require one and one-half to two and one-half acre feet per acre. If grown during the summer, a larger amount is necessary. The soil in which potatoes are to be planted needs the application of water to the depth of about eight or ten inches before plowing, and the growing crop should receive three or four irrigations, each of a depth of about six inches, the last after the plants have bloomed. Garden or sugar beets sown during winter will grow well without irrigation for a month or more after seeding, if the soil has been previously moistened by the application of water to the depth of eight or ten inches. After irrigation is begun they need to be kept supplied with moisture until the crop is well grown, the largest amount usually being required during May and June. If sown during the summer, they must be irrigated from the first.

* * *

Summer forage crops vary considerably as to the amount of water needed, corn, sorghum and related plants requiring less than cowpeas and other related legumes. Corn may be grown with two feet of water, and sorghum, Kaffir corn and Egyptian corn with even less. Cowpeas are a desirable crop for several reasons, but require too much water to be grown where the summer water supply is not abundant. Between three and four feet are needed to produce a satisfactory crop, and more may be applied to advantage if they are permitted to grow throughout the summer. Cotton, another southern crop, also needs a large amount of water to produce a full crop, four or five feet being consumed by the crop during its long season. In planning the culture of such crops that must be grown during the summer, it is important that the amount of water they will require be given due consideration and it also should be considered that in most regions water is more valuable during the summer.

Melons do not require as much water as the nature of the crop might indicate. While they require a large number of irrigations during their growth, the total amount necessary to apply to the crop is not correspondingly large. This is partly due to the distance between the rows, and partly to the rapidity with which the plants appropriate water put within their reach. The amount needed is between three and four feet if the crop is permitted to remain on the ground far into the hot weather of midsummer. Most summer vegetables require about the same amount.

Strawberries, needing as they do irrigation throughout the year, require the application of as much water as does any small plant. During much of the year in the dry interior valleys, they need irrigation about once a week and during the remainder of the year they need it at least once or twice a month, in all thirty to forty irrigations. The smallest depth that it is usually practical to apply each time is about two or three inches, making a total of over six feet for the year.

* * *

The amount of water required by orchard trees varies from three to five feet per year. For the benefit of those who are accustomed to thinking of irrigation water in terms of inches, it may be stated that the above amounts are equivalent to a continuous flow of one-sixth to one-third of a miner's inch per acre. It has been found by experiment at the Arizona Station farm that in the case of deciduous trees, the most, or even all, of this amount may be applied during the winter while the available supply of irrigating water is greatest. Where more convenient to do so, about three feet may be applied during the winter, and one foot in one continuous irrigation some time during June or July. But it is wasteful to make many applications of small amounts of water, as by this method only the upper part of the soil is wet, and the moisture soon escapes by evaporation without having reached the tree lower roots.

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General Agriculture

BERMUDA GRASS.

Editor Cultivator: I notice in the last two issues of the Cultivator inquiries regarding Bermuda grass, and asking where seed may be obtained.

I have had considerable experience with this grass and I cannot understand how any sane person can recommend its propagation. About ten years ago three neighbors obtained some roots and planted them around their reservoirs to protect the banks. From this thoughtless beginning it has spread until now the great question is how to get rid of it. The birds and winds carry the seed and the grass springs up around the trees in the orchard where the cultivator cannot reach it, and it has to be dug out with hoe or spade, and then it is almost impossible to get clear of it. The grass is a creeping grass, full of joints which catch in the ground, and in digging it up if a joint is left a half-inch long it takes root. It is a wild grass. Stock will eat it when green and it grows about six inches high. When cut and cured it is almost worthless, being of about the consistency of chaff, so light that it can hardly be handled with a fork.

Bermuda grass, Canada thistles, Australian salt bush and salt grass ought to be in the same class, and to have my choice of a patch four feet square, planted on my ranch, I should choose Canada thistles, as the thistles can be eradicated, but the others cannot. I cannot conceive how any person can recommend Bermuda grass when he can plant alfalfa, clover, blue grass, timothy, millet—all good grasses that can be plowed up if you wish to change the variety. I have written thus strongly against Bermuda grass thinking it my duty to warn people against propagating such a wild and comparatively useless weed.—James A. Whitaker.

SEND SPECIMENS.

Editor Cultivator.—During the fall, my peach orchard was badly affected by some insect which punctured the tissues of the new growth and seemed to suck the sap. Later the leaves began to turn yellow and to fall off in large quantities. Now the trees act as if they are dying. Will you tell me through your paper what this insect is and what I shall do to rid my orchard of it, for unless I can get rid of it this season, I shall have no trees left.—J. F. D. Subscriber, San Luis Obispo.

Editor Cultivator.—I am exceedingly sorry that it is not possible for us to recognize the insect which is mentioned by your correspondent whose letter I return; consequently, it would be the merest conjecture to make comment upon it. If it is possible for your correspondent to secure any specimens of the insect which he thinks is occasioning the trouble we could perhaps give some satisfactory information about it. If they have entirely disappeared we can suggest nothing but that he watch for them and secure specimens as early as possible next season.—E. J. Wickson.

There are now attending the regular courses in the Agricultural Department of the State University, 46 students.

THE POTATO CROP.

The Pajaro Valley is one of the principal regions from which our potatoes come. At least it is one of the most productive in the state. This year, as a whole, the crop will run 80 per cent. of what it was last year. In this state, as in all others, one of the necessary crops is the potato crop, and when that is short it is keenly felt. From now, until all the potatoes are gathered, there will be, necessarily, a good deal of fluctuation in price. In the interior valleys the crop is lighter than was anticipated and this tells on the general market.

OLIVE PICKING.

Olives are coming to the packing houses in large quantities. There will be a big yield of oil, but as a whole, the olive crop is reported short of last season, owing to the smallness of olives. There is also much difficulty in pickling the crop so as to keep them. The San Francisco Chronicle is authority for the statement that a process has been perfected by a San Diego man by which the pickled fruit can be so prepared as to keep under all circumstances. He does not use any preservatives at all, the result being attained entirely by treatment of olive.

CUTTING RATES.

The fact that the Fresno raisin association is not selling its product as freely as its officers think it should, is giving them some uneasiness. The sales to date are some thousands of tons short of expectations. The cause of this condition of the market is found to be the abundance of outside fruit which is being marketed at reduced rates.

THE PRUNE MARKET.

The San Francisco Chronicle notes the fact that there is no improvement in the prune market. The large crop has prompted growers to let go their holdings at less than a three-cent basis, and this they are doing at such a pace as to over stock the market.

BANNER PRICE FOR LEMONS.

C. W. Leffingwell, jr., has received the banner price for lemons this year, This week a car of his lemons sold in New York for $1087 net. The fancy brought $5.87 per box. Two other cars within a week or so have netted Mr. Leffingwell over $900 each.—Whittier News.

A later car brought $6.87½ for the fancy grade, which is the highest price received for California lemons this year.

Johnson Grass.—A correspondent asks, "Is there a law in California prohibiting the sowing of Johnson grass?"

There is. Chapter 250, approved March 20th, 1903, provides that it shall be unlawful for any person to sow Halepense, commonly known as Johnson grass, on his own land, or on the land belonging to another, or on the highway, or allow the seeds to mature, if it is already growing on his premises or in the highway fronting his land. The penalty on conviction for this misdemeanor, shall be a fine of $100, or imprisonment in the county jail for a period of one month.

For a Christmas present nothing is better than a copy of the Cultivator.

The Gregory Packing company is erecting a large plant at Colton.

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Last year we said the Tilton Apricot was a regular bearer. NEVER FAILS. This year is no exception. Every tree bore heavily; old ones as well as the newer planted orchards.

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TILTON APRICOT

Is a winner. Large, highly flavored, good color. In the dried fruits the Tilton won First Premium at the Great Central California Fair. Liked by canners. Original tree 18 years old near our nursery. Buy trees where you can get true to name buds from original stock from the Original Tilton Nurseryman. A thrifty lot of peaches and other deciduous trees.

J. W. BAIRSTOW, HANFORD, CAL.

Conducted by PROF. A. J. COOK, Claremont, Ca'.

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so faras possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A. B. C. OF INSECTS
(Continued)

Predacious Insects.—Of the predacious insects, we have two very important families, the rounded familiar lady birds and the black quick ground beetles. We have had a good illustration of the first in the introduced species which have done so much for the fruit growers of Southern California. The Vedalia, all unaided, has looked after one of the worst pests of the citrus orchard, the cottony cushion scale. The Rhizobii are also doing immeasurable good in destroying the black and purple scale insects. It is a matter of common observation that the ordinary red ladybirds and the equally common red, spotted with black, forms, are constantly laying us under a great debt of gratitude in destroying the pestiferous aphids. These aphids are very destructive, and except for their natural enemies would involve the orchardist and gardener in tremendous expense in keping them from destroying his plants and trees. It is hard to estimate the enormous value which we annually receive from these ever present lady bird beetles.

The form of the lady birds is very characteristic. They are short and rounded and the antennae are very short—so short that they are usually concealed beneath the head and can only be seen upon very close examination. The grubs are also shorter than the same of most beetles. They also feed upon aphids and other insects. We have a native lady bird, black with a red spot on each of the elytra, which does great good. It even feeds upon the black scale. Prof. Marlatt, of the Department of Agriculture, has recently found in Northern China, which he thinks was the native home of the San Jose scale, a lady bird which is almost the exact copy of this last and which is known to science as Chilocorus similis, while our native one is C. bivulnerus. This hints at what is more than probable, that if we would find the native place of our most destructive insects, we would also be able to discover natural enemies that would hold them in check.

The other family of predacious beetles—the ground beetles—are very numerous, very active and very valuable. They are almost always black and are very quick and active. They are savage both as grubs and as mature beetles, and many a caterpillar and other insect pest falls victim to their rapacious appetites. They are especially valuable in ridding us of underground caterpillars like cut worms. At times, when we have the so-called army worm raids these ground beetles do immense good. I have seen a single grub destroy two or three great cut worms in two or three minutes, and their rapid growth is only equalled by their hungry appetites. One meal is hardly over before another is commenced. Here again, it would be hard to estimate the great benefit which we receive from these ground beetles.

* * *

The commercial beetles—blister beetles—are used, as is known, in case of disease. The Spanish fly, a species of Cantharides, is most used, though the blister beetles of our own or any country have this power to irritate which makes them valuable. They simply need to be crushed, moistened and bound onto the flesh to raise a blister.

It will be remembered that in our last number, we made a study of the greatest order of insects, the Coleoptera. We remember that they are biting insects with complete transformations, and take their names from the fact that their primary wings sheath the lower wings, which alone are functionally useful. Many, like Fuller's Rose Beetle and the lawn beetle or strawberry grub, feed on the roots of plants. Others, like this same lawn beetle when mature, and the many leaf beetles in both of their active stages, grub and imago, feed on foliage. Many of the weevils also feed on foliage. Fuller's Rose Beetle not only eats leaves but does great harm eating the leaves of plants. Again, many of the beetles like the Plum Cirvulio, bore into, and feed on the fruit. Still other insects, like the carpet beetle and the bacon beetle, feed on and destroy articles useful in domestic economy. So great is this order and so numerous are the destructive species that we can give only a brief description of typical forms and suggest methods to cope with these insidious enemies.

* * *

The Weevils.—There are several families of beetles which have their head prolonged into a more or less snout or rostrum. These are usually referred to as weevils. Fuller's Rose Beetle belongs here. This is a formidable enemy. The footless grubs destroy the roots of strawberries, raspberries, roses and the roots of other rosaceous plants while the mature beetles destroy foliage and are especially annoying to our citrus growers, as they feed upon the buds of newly budded trees often doing great damage. The Plum Circulio destroys the fruit which gives them their name. A large weevil bores into our yucca and is quite common here. However, as the yucca is of little importance, this weevil would fail to interest most of us. The weevils can be destroyed by the use of Paris green, but they are slow to succumb and do a great deal of damage before they get enough of the poison to be fatal. Hence this method has failed to prove satisfactory. Most of the insects of this group have the curious habit of falling to the ground when they are jarred. Hence we can often destroy them by jarring them onto sheets and then killing them. Fuller's Rose Beetle has no wings and so it can do damage only by crawling up the plants or trees which they infect. Cotton about the tree fastened by a strip of cloth and left fluffy will prevent their passing up the trunk and so may well be used in our citrus orchards where we are budding over trees.

* * *

Leaf Beetles.—The leaf beetles in a general way closely resemble the ladybird beetles, though usually they are longer. We remember that the ladybirds are nearly round. These are usually more or less elongate. The antennae of these are also plainly seen, while the antennae of the ladybirds are visible only upon very close inspection. The potato and elm leaf beetles of the east are illustrations of this formidable pest. Most of us will remember the little striped cucumber beetle. We have one here of similar form and size, a little greenish yellow beetle with four black spots on its wing covers. It is known to science as Diabrotica soror, and we may call it the twelve-spotted leaf beetle. Many of these leaf beetles are very brilliant. A deep blue one is very common here on the milkweed. While we have many species here, I know of but the one just referred to that is destructive. This little twelve-spotted species works on melons, cucumbers and other vegetables. These insects are the more pestiferous as they feed both as grubs and imago. In some cases, however, like the cucumber beetle, the grubs feed on roots rather than on leaves.

It hardly need to be said that Paris green or other kindred poisons is the great panacea for these pests. The root forms can best be killed by bisulphide of carbon, as can also the root-eating weevils.

* * *

The Borers.—There are two great families of beetles which are exclusively borers and are very serious pests to our forests, fruit and ornamental trees. The common borer of our deciduous trees belongs to this last family. So far as I know, this is the only borer that vexes our orchardists in this state, if we may except the peach borer which is a moth, and not a beetle at all. The remedy against these borers is that of prevention. We wash the tree trunks with a strong soap solution, or better still, apply soft soap in liberal quantities, in the early spring at the time of egg-laying. This seems offensive to the mother beetle and thus she is prevented from laying eggs. The big-headed borers work but one year. They usually tunnel just under the bark and usually under the southwest side of the trees. The round-headed borers, on the other hand, may bore for three years before changing to pupae and bore deeply into the wood. These are the beetles that often do such damage to timber.

* * *

The June Beetles, or White Grubs.—Many of us know too well the common June beetle which ruins our lawns and blights the strawberry plants. It is the grub that does the mischief here and we often refer to them as white grubs. The beetles also do damage by eating leaves after the grub has done its work. These are so abundant that it is hard to suggest a good remedy. Plowing up and reseeding the lawn or strawberry beds is about the only satisfactory method of dealing with these pests. Our May or June beetle here in California also lays her eggs in the manure of the stable and the grub seems quite satisfied with such diet. Fertilizing the lawn or strawberry plantation by this effective manure often introduces these grubs and results in great destruction. A smaller insect of this same family, which is rich brown in color, eats on the apricot leaves and doubtless works on the roots of plants while yet in grub state. These beetles are often numerous and at times very destructive. They bury under the trees by day and come forth with the darkness to eat foliage. Whenever we see our deciduous fruit trees with ragged leaves in May or June, we are pretty safe in laying the blame at the door of these little bright brown beetles.

* * *

Wire Worms.—The wire worms, grubs of the spring beetles, are destructive in California, working on the roots of alfalfa and fruit and other trees. It is hard to combat these as they are so common. Bisulphide of carbon might help in the orchard, and if we cannot drown them out by flooding the alfalfa meadow, it may be wise even to plow up and reseed. It will depend upon how serious is the damage wrought by them. I think that these wire worms have done more damage in California than any other beetle. If Fuller's Rose Beetle continues in its present role it will soon be a close second, even if it does not stand at the head.

* * *

JOHNSON AND BERMUDA GRASS.

Mr. Lorbeer of Pomona sends me a grass and wishes that I should tell what it is. I think the grass sent me by Mr. Lorbeer is Johnson's grass, though it is impossible to always be sure of a tuft of grass where there is no flower stalk developed. The Johnson grass was introduced, I think, from Turkey into South Carolina by Governor Means. Afterwards Senator Johnson took it to Alabama, hence its common name. Its scientific name is Andropogonhalepensis. It is one of the sorgums, hence, as we should expect, has broad leaves. Under favorable conditions, it grows several feet high. Bermuda grass, Capriola dactylon, has very narrow leaves, and scattered flowers on the flower stalk. The color is dark, almost blue. It, like the others, when it comes, comes to stay. In a lawn, it usually fights the blue grass until the latter gives up and succumbs entirely. It is scattered by seed but more by scattering the under-ground stems. It also makes good feed both as hay and pasturage, but the fact that it is so hard to get rid of also discounts it. We greatly wish that neither of these grasses had ever been brought to California. They are, however, everywhere and the only way that we can ever be rid of them is for every body to say and act, "fight." All these grasses are called "Devil grass." We see why, like his Satanic Majesty, fight, as we may, they never say quit.

Professor Shaw, of the State University, states that so far as he knows there is no virus known that will kill squirrels.

The Garden Spot of California

Why spend your time irrigating desert sand when choice productive land requiring no irrigation may be had for little money. Land located where semi-tropical life may be enjoyed in fulness, in a well settled and cultured community; handsomely wooded and watered, living springs on the place, scenery and climate are unsurpassed, no frosts, no winds, no malaria. All that is desirable for a happy and prosperous home for a tourist or wage earner. Terms easy. Vines or fruit trees set and cared for for two years to non-residents. Best county in the state for sure and large returns. Send today for book, free. It tells you all about where to raise all kinds of fruits, cereals, vegetables, poultry and stock. Address

Hayden, Park Co., 422 Laughlin Bldg., Los Angeles, Cal.

GO TO GARDENA

Where the alfalfa grows so luxuriantly, giving from 6 to 8 cuttings per year, and producing when fed to cows a superior product of milk and butter—the secret—there being no alkali to detract from the purity of the milk, as demonstrated by the noted Strawberry Brand of Butter made by Mr. Davis of Gardena. The success of our Chicken Ranches depends upon having green alfalfa as a food product in the production of eggs at a time of the year when the dry ranch farmer has no green feed to make the hens lay. Our small alfalfa, dairy and chicken ranches are making good livings.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset with bearing fruit trees. Berries, one acre of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room house, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

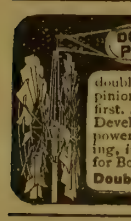
FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house snd barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

GRAY & NELSON
Gardena, Cal.

D. A. PEET.....
GRAPE NURSERY
All the latest varieties. LA CANADA, CAL.


DOUBLE POWER
$1,000 REWARD
for its equal. Wind power doubled. Two 14 ft. wheels work on same pinion; second wheel gives more power than first. **A governor that governs** in all winds. Develops 10 full h. p. in 25 mile wind. All power needed for farm, shop machinery, pumping, irrigating, etc. for $1.00 a month. Ask for Booklet 6 . Ask about Armsaver Husker.
Double Power Mill CO., Appleton, Wis.

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Orange County
Nurseries
SANTA ANA, CALIFORNIA
Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Loquats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.
Residence, 202 Hermosa St.
Sales Yard, Cor. Main and Sixth Sts.

Trees Fruit and Ornamental Shade Trees for Street and Roadside
Olives, Oranges, Lemons,
Grape Vines, Resisting Vines
NUT TREES:
JORDAN ALMOND,
Chestnut, Walnut and Pistachio Nut
Complete Stock of Large Palms, Evergreens, Roses, Climbers and Flowering Shrubs.
New Catalogue of 72 pages mailed free.
California Nursery Co.
John Rock, Manager. Niles, Cal.

3-HORSE POWER
Webster Gasoline Engine.
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.
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WOODIN & LITTLE,
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USE...
California Portland Cement
MADE AT COLTON
Guaranteed for Uniformity, Strength and Durability. In successful use everywhere in Southern California for foundation floors, sidewalks, flumes, pipes, etc. Let your patronage build up Southern California, not foreign countries.
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California Portland Cement Co.,
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LOS ANGELES, CAL.
We have LAND PLASTER for sale

FINE ORANGE TREES

One-year Buds on two-year roots.
Navels and Valencias
H. M. COLE
P. O. BOX 455
So. Hill Ave. Pasadena, Cal.

Coast News and Notes

BY R. A. DAGUE, COR. SUTTER AND SANSOME STS., SAN FRANCISCO

HORTICULTURE.

An olive grower of Madera harvested forty tons of fruit this season.

Three large orange packing houses at Exeter, Tulare county, are busy packing and shipping oranges.

Recently a solid train of forty-two cars loaded with walnuts went East from Southern California over the Santa Fe.

P. L. Schlotterback, of Sebastopal, is preparing to plant out 2000 walnut trees on his farm, which is well adapted for walnuts.

There is a lively movement inaugurated among the women of Sonoma county to plant trees along all the public roads of the county.

E. H. Kimble, of Tulare county, will send some Japanese persimmons to the St. Louis Exposition, some of which measure eleven and one-half inches in circumference.

Mr. Lindsay, of Tulare county, has been for a week or more shipping fifteen carloads of oranges daily, and will keep up that pace for quite a while. The fruit is of a fine quality.

The Hoyt Tree Support Company, one day last week, shipped 250,000 supports to Riverside. This is the second shipment to that place by this company within the past month.

Major Berry raises a note of warning to the grape growers of Yolo county. He says a vine disease has crept in there and it is not phylloxera. Individuals cannot cope with it. It must be stamped out by a general co-operation of the growers.

Prof. Fowler says: Professor Clark's remedy for the codling moth is effective; i. e., a mixture of lime, sulphur and salt. It must be applied when the weather gets warm and when the insect has taken the head of the cocoon preparatory to coming out.

The prune growers of Oregon have taken steps to organize a co-operative prune insurance company, as they claim the old companies have been charging them too much for insurance. They have been paying $2.50 per month on each $1000 worth of dried fruits.

In order to avoid duplication at the St. Louis Fair, Southern California counties will make specialties a feature. San Bernardino county will make a specialty of minerals, Santa Barbara of olive oils, Ventura of beans, Riverside irrigation and citrus fruits, Orange county, sugar and small fruits. San Diego, raisins, silks and minerals, while Los Angeles will present an all-round general display.

AGRICULTURE.

Hollyberries are ripe in the Capay valley.

The sugar crop of Cuba this year will be 1,230,000 tons.

The cotton boll weevil has caused a loss of $250,000,000 in Texas alone.

Richard Chattan, near Visalia, is preparing to plant 1600 acres to wheat.

Dr. H. B. Crocker, of Healdsburg, will plant 1200 walnut trees this season.

About 350 carloads of sweet potatoes have been, this season, shipped from Merced.

The Pasadena city sewer farm this season has grown about 50,000 pounds of English walnuts, worth about $6000.

Santa Ana shipped the first celery that reached Chicago this season. The shipment consisted of fifteen carloads.

The potato crop of the Pajaro valley this season is estimated to be about 80 per cent of what it was last year.

More than 50,000,000 pounds of India rubber was imported into the United States last year. Its value was about $30,000,000.

The Spanish peanut crop of 1902-03 is stated to be the largest ever grown, amounting to between 50,000,000 and 60,000 bags.

There is an alfalfa boom in Tulare county. Farmers will put out a large acreage notwithstanding seed is fourteen cents per pound.

The value of the corn crop in the United States in 1899 was twenty-five millions greater than all of our iron and steel industries combined.

The honey crop was heavy in the east this year, and the weather prophets say that is a sign of a long and severe winter.

Sweet potato growers of Tustin, Westminster, Fullerton, Santa Ana and other localities of Orange county, have formed a co-operative association.

Only Emperor grapes, from Fresno, brought satisfactory returns in New York. They brought about $2105 per carload. Other grapes sold for $1100.

J. W. Barbour, of Kings county, is preparing to seed 3,500 acres on his ranch and thinks that 25,000 acres will be put in grain in the lake bed this winter in that county.

The honey output of Acton this season amounted to 185,076 pounds. Two carloads went to Los Angeles, two to Portland, one to San Francisco and one is yet unsold.

The Colusa Sun insists there should be no talk about a "citrus belt." Oranges grow all over the Sacramento valley except in the "spots" where frost sometimes comes.

S. Richardson is preparing to cut up his farm of 493 acres, near Tulare, into five-acre tracts and put it on the market. Meanwhile he will farm it to alfalfa.

During the past two months over six carloads of sweet potatoes have been shipped from Modesto county. They sold at $1.00 per box or for a total of $80,000.

Reports from different points in Northern and Central California, are to the effect that grass is making a splendid growth and the dairy prospects are bright.

Long years ago a little band of Jesuit padres at San Gabriel planted the first cuttings of grape vines in California, and from these few chance cuttings brought from sunny Spain has grown the wine industry of the state.

The potato crop is very large this year in Washington. Buyers are offering 40 to 60 cents per 100 pounds, but growers demand 75 cents. They say if they cannot get that they will hold them until spring, when they will be worth $1.00.

A mathematician has computed for the Call that, at 160 acres apiece, the 100,000,000 acres of irrigable land, which may ultimately be brought under government reclamation works, will support 625,000 families, or, say, 3,125,000 people.

Government statistics show that the bug family in the shape of pests destroys fruits and crops in the United States each year to the amount of $358,000,000. Of these the San Jose scale and apple worms costs the country $10,000,000 annually. Grasshoppers, potato bugs, the cotton worm and chinch bug, are the other chief destructionists.

Under direction of the Agricultural Department of the State University, spraying of the orchards in Monterey and Santa Clara counties was done from April 20th to September 15th. Fifteen hundred trees were treated. They ranged in age from 5 to 20 years. The ravages of the codling moth were unquestionably greatly diminished, as shown by the good fruit gathered from those trees.

Arizona Everbearing Strawberry Plants
Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

F. H. Disbrow Nurseries
Largest **CITRUS SEEDLING** Nurseries in the state
We make a specialty of growing first-class citrus seedlings and have in our seed beds for next season's planting the best and most complete stock we have ever offered, including the following varieties: SWEET ORANGE, FLORIDA SOUR ORANGE, FLORIDA ROUGH LEMON, POMELO, and the hardy frostproof CITRUS TRIFOLIATA, all having their points of advantage under different conditions, as budding stocks. All our trees are home grown; no "White Fly" importations from Florida. We also have a stock of Valencia and Navel 1-yr. buds, English Walnuts, Loquats, Shade Trees, Ornamentals, Cabbage Plants, etc. For further information and prices, write us.
COR. HILL AVE. AND VILLA ST. PHONE SUB. 1X4
RES., ½ MILE E. OF HILL AVE. ON COLORADO ST.
P. O. BOX 1032 PASADENA, CAL.

SHADE TREES
We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand
Roses, Palms, Ferns, Vines,
Ornamental Shrubs, Etc.
Write for Catalogue Free
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
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LOS ANGELES, CALIF.

Want Some Citrus Trees
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Contract now for spring delivery Washington Navel & Valencia Late trees also grape fruit or orange seedbed plants for nursery
POLLARD BROS.
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Send for our Illustrated and Descriptive Catalogue of
CITRUS AND DECIDUOUS FRUITS
DIFFERENT VARIETIES OF EUCALYPTUS
ORNAMENTAL VINES, ROSES
and everything for the orchard and garden.
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THE
Vernon Nursery
We will offer 100,000 deciduous fruit trees for sale next season
If you are thinking of planting it will pay you to give us a call before placing your order
We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums
A day spent looking over our nursery will be money well invested
A. YARNELL,
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Good Business For Sale

I offer at a bargain my one-half interest in a good nursery business. Best of reasons for selling. Small capital required. Call on or address

J. W. ALLEE.

284 EAST THIRD ST. POMONA, CAL.

For Sale Cheap

COMPLETE PUMPING PLANT

10-Horse-Power Otto Gas Engine; No 3 Byron Jackson Compound Centrifugal Vertical Pump, nearly new and ready to work. You can have it at a bargain.

T. G. CUSHMAN, SUNLAND, CAL.

GRAPE CUTTINGS

Orders taken for Grape Cuttings from

Black Cornichon
Red Emperor
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T. INGVELDSEN

P. O. Box 384 Pasadena, Cal.

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East Main Street Pottery Works

Ollas, Vases and artistic Pottery, and Pottery for Floral Plants. Fancy Hanging Baskets and Wall Baskets, Etc., Rose Propagating pots a specialty.

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Opp. East Los Angeles Brewery Co. Near Avenue 20

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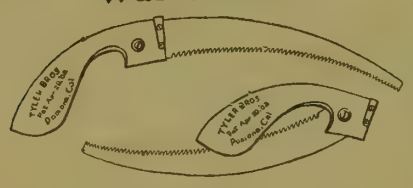
LOS ANGELES, CAL.

Take East Lake Park Street Car.....

THE POCKET PRUNING SAW

Convenient
Warranted



Try It—If You Don't Like It, Return It.

IT JUST FITS THE HIP POCKET

The teeth of this saw are disposed at right angles to a straight line from the grip of the handle to the point of the blade, thus permitting the same ease of operation its full length. The peg or cant tooth makes it particularly adapted for green wood. It will not clog or gum. Recommended by all who appreciate a first class pruning saw. **Price $1.25.**

DEALERS WANTED EVERYWHERE.

GEO. R. TYLER Pomona, Cal.

ENCINAL NURSERIES

SUNNYVALE, CALIFORNIA

The largest stock of Apricots and Peaches in Santa Clara Valley

Apricot—Blenheim, Hemskirke, Moorpark, Bragetti, Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings. etc.
Prunes—French, Imperial and Sugar.

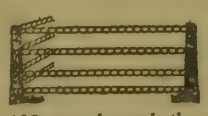
Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

F. C. WILLSON, Prop

TRUSS and CABLE FENCING

Is Easy to Handle.



Truss and Cable Fencing is put up in compact coils or reels weighing about 100 pounds each thus making a very convenient package to handle on the field. Two men with horse sense and no mechanical ability can put up a fence without special tools of any kind. Truss and Cable Fencing is suitable for cattle, sheep and hogs. Its life is twice as long as barb wire or woven wire fences.

Write for descriptive circular.

Pacific Hardware & Steel Co.
401 Mission Street, San Francisco.

Coast News and Notes

CONTINUED

The total acreage in fruit trees in Santa Clara county as shown by the assessor's books, is not less than 56,000, and in vineyards about 6000; the acreage in berries and small fruits is 1200; in vegetable gardens 500, and in flower and vegetable seed farms 3000. Between 300 and 400 acres are planted in potatoes, and the wheat acreage is 10,000; that of barley 12,000; and of hay 30,000.

LIVE STOCK.

England annually imports $30,000,000 worth of eggs.

Dressed turkeys sold in San Francisco for Thanksgiving, at 35 cents per pound.

This country is a great producer of coal, but our eggs and poultry are $60,000,000 more valuable.

D. H. Fallen this summer purchased in Nevada, for Clabrough & Co., the San Francisco butchers, 40,000 head of sheep.

Mrs. Mary Stewart, a wealthy and experienced dairy woman, is establishing a dairy at Red Bluff, to cost $10,000.

Joseph Putnam, of San Jose, has recently bought a 400-acre farm near Visalia, and will stock it and do a dairy business.

Petaluma shipped to San Francisco for the week ending November 17th, 25,622 dozens of eggs and 576 dozens of poultry.

A farmer of Pixley says he has found that cats are the most efficient squirrel killers. He has rid his farm of squirrels with cats.

Some Kansas parties with capital have located a creamery at Ferndale, Humboldt county. They expect to handle the entire product of the county.

Charles McAllister, a sheep king of Washington, says that fifty per cent of the sheep of eastern Washington and Oregon will perish this winter from lack of feed.

A successful horse trainer says, "Pet your horse and have some sugar and an apple in your pocket. Make a beggar of your horse, and your work of training is half done.

The statement is made by reliable parties that at least 50,000 sheep are being frozen to death in Wyoming. They were overtaken by deep snowdrifts before they could be removed.

Lompoc valley comprises about 13,000 acres. It is rapidly becoming a dairy section. It is estimated that more than one thousand cows will be daried there next year than during this year.

The Willows Journal, discussing the bacon question, says: "Twenty cents per pound for bacon sides and fat hogs selling less than five cents per pound. Here is a margin that should encourage our pork producers to go into the manufacture of bacon."

The movement to organize a Poultry Association started at Santa Paula, but is spreading. A branch association has been formed in Petaluma. The officers are Henry Graff, president; H. D. Pressley, secretary; J. Johnson, treasurer.

A late report of the Woodland creamery, shows that for every 100 pounds of milk delivered, four and a half pounds of butter were produced. For the year ending November 1st, $87,000 were paid out for milk. Mr. Gibson delivered milk from 56 cows, and was paid $4184.60. Mr. Bemmerly delivered milk from 40 cows and received for it $2859.45.

The people of Yolo county are beginning to see value in the tules that grow so profusely there, on low lands. Recently there was quite a demand for them from Japan and China.

MISCELLANEOUS.

A Rochdale co-operative store is to be started at Woodland.

The scientific professors now say there are 200 kinds of mosquitoes.

The peanut crop of Orange county this season will be about ten carloads.

E. L. Flint, of Auburn, California, died on November 25 from ptomaine poisoning from canned meat.

A vein of coal, two feet in thickness, has been struck 25 feet below the surface near Vacaville.

Mrs. E. Warren, of San Francisco, was recently poisoned by eating canned beans.

A quarter of a million dollars will be expended this winter in improving the Santa Cruz beach.

Three years ago California had less than 100 automobiles. Late reports say there are now over 2000 in use in the state.

Sixteen hundred acres have recently been purchased north of Visalia and will be occupied by a colony of Armenians.

The owners of 870 lumber and shingle mills of Washington have formed a rust, and will advance the price of lumber.

Louis Weber of Daunt, Tulare county, has some fine samples of dates, of his own raising, that he will send to the St. Louis Exposition.

The California Promotion Committee has on file about 60,000 letters from people who are interested in this state and think of locating here.

Santa Barbara will exhibit a crawfish at St. Louis, that measures thirty-seven and one-half inches in length and weighs eighteen pounds.

Los Angeles county has contributed $23,000 for making exhibits at the St. Louis Fair, and Alameda county $20,000. These two counties lead all others in the state.

There is a general reduction of wages throughout the country. On November 23rd the wages of 30,000 workers were reduced by the Fall River, Mass., cotton mills.

A new veterinary and bacterialogical laboratory is being fitted up in the agricultural department of the University where germs and fruit pests will be experimented upon.

The Washington State penitentiary has a surplus of 1,000,000 grain sacks on hand, as a result of the shortage of crops in that state. In the last eleven months the prison turned out 1,300,000 bags.

Commissioner-General Sargent is in favor of building a commodious immigrant station at San Francisco patterned after Ellis Island, and Senator Perkins has introduced a bill providing for such a station to cost not over $200,000.

Professor Fowler at a late Farmers' Institute in discussing the Rochdale co-operative system said, "one of the greatest benefits of the Rochdale system is that it teaches men and women the value of co-operation. Sooner or later the principle will be applied to production as well as distribution."

On November 12th Frank Leslie of New York, issued a "California edition," at the instance of the California Promotion Committee. It contains many beautiful illustrations of California orchards and other scenes, as well as highly interesting articles by Hamilton Wright, secretary of the committee, and others.

The U. S. government has established a retail grocery store in Washington, D. C., at which samples of pure food articles from foreign countries will be sold. These samples come from imported goods taken by the government for analysis. Those found to be pure are later sold to any person wishing to buy.

BRANDYWINE STRAWBERRY PLANTS

Well rooted plants on good, vigorous stock. Price, $1.50 per thousand.

W. A. LEE COVINA, CAL.

STRAWBERRY PLANTS

I have for sale several thousand Arizona Everbearing Strawberry Plants. Very thrifty.

N. HEALTON COVINA, CAL.

STRAWBERRY PLANTS FOR SALE

Glendale Brandywines, some raised from Imported Michigan Plants, others from Griswold's Imbroved Brandywines. Stating how many you wish, for terms address

EDGAR LEAVITT Box 17, Glendale, Cal.

TOLUCA NURSERY

Blackberry, Raspberry, Loganberry, Strawberry. Full line of Nursery Stock.

TOLUCA NURSERY

G. TEOSETTI TOLUCA, CAL.

STRAWBERRY PLANTS

500,000 plants of all the leading varieties, GROWN FROM PEDIGREE STOCK. Interested parties invited to visit our place and see Brandywine and Belts in full bearing.

MILLER & CORSON

Home Ranch, N. Hill Ave. Pasadena, Cal

BERRY PLANTS

Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.

For descriptive list address

W. J. EMBREE,

Rural Box 61, El Monte, Los Angeles Co., Cal

150,000 Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

F. P. Baldosser, Covina

ONE MILLION Gardena Dewberry PLANTS FOR SALE

A. R. RIDEOUT Whittier, Cal.

Citrus Tree Bargains

We have several thousand fine orange trees, leading sorts, for sale at a special rate if taken before Dec. 1st. Headquarters for trees on Trifoliata or frost resistant root.

WAGNER'S NURSERY

PHONE SUBURBAN 108 PASADENA, CAL.

THE EMERSON DISC PLOW

Superior to All Others

This plow is better constructed and has more adjustments and is adapted to a greater variety of soils than any other disc plow.

Has steel beams, adjustments are simple, is ball bearing, and will turn square to right or left.

Descriptive matter mailed on application.

NEWELL MATHEWS CO.

200 N. Los Angeles St.
Los Angeles Cal.

We Are Sole Agents in Southern California for the

Sharples Tubular Cream Separators

and Carry a Full Stock at Our Salesrooms

A Sharples Separator will enable you to { Make More Butter / Make Better Butter / Secure Best Prices

OR TO

Sell Your Cream to a Creamery Without Regard to Distance

Every Separator we have sold has given best satisfaction and we can refer to satisfied customers everywhere.

We Claim { Cleanest Skimming / Ease of Turning / Simplicity and Durability / Convenience in Washing

We also manufacture and sell **SUNSET INCUBATORS** and a full line of Creamery and Dairy Supplies, Boilers and Engines. Write us for catalogue, price lists, etc., and state number of cows you milk, or call at our salesrooms.

W. E. Hyer & Company **108 N. Los Angeles St., Los Angeles, Cal.**

C. H. SESSIONS, ASSOCIATE EDITOR

ANSWERS HIS OWN INQUIRY.

Ed. Cultivator: In 1902, October 18th, my heifer was fresh. She is now giving about three quarts per milking. I milk her only once a day. I have had her up to the two and a half gallons per day in spring, on green feed. She gets only hay and water now. She will be fresh about the first of January. She has more than paid for herself and feed, in butter alone. It is needless to say that she is a Jersey and a thoroughbred at that. "Is she a paying cow from a Jersey dairyman's standpoint?" First cost was $50. —Subscriber.

I should think your correspondent, "Subscriber," answers his own query by the facts stated in his letter. As he calls his thoroughbred Jersey a heifer, the inference is that she has had but one calf. If she paid for herself (costing $50), and for her feed in the first year of milking, she is certainly a paying cow from a Jersey dairyman's standpoint, as she must have brought in $80 in the year to gross the above amount, let alone "to pay" such a profit. Again, if she gave 2½ gallons or 20 pounds milk this spring when five or six months in lactation, she is certainly a most promising heifer, as the yield indicates a good flow at flush, coupled with persistency. Any heifer that gives 20 pounds at flush with first calf, of good quality, is, while not phenomenal, a good one, and stands a strong chance to develop into a four-gallon cow. Such a yield, coupled with persistency, stamps this heifer as decidedly a paying proposition in my judgment.—C. W. Leffingwell, Jr.

WHAT ANGORA GOATS CAN DO.

I will attempt to tell a little I have learned about goats, in connection with getting a stand of timothy and clover on fresh brush land, without stirring the soil, says S. S. Brooks in Rural Home.

During the month of July and August, 1900, a hired hand and I cut all the sprouts and small saplings from a 50-acre field. We felled them all in one direction; the trees having been previously worked up into railroad ties and cordwood. The brush was left lying on the ground until the following November. During a dry, windy time, we set fire to the brush and cleaned it and the leaves and young sprouts out pretty nicely. In February, 1901, I sowed timothy and clover on the bare ground; but the hot, dry winds of the following summer burnt it out almost completely. I sowed the same piece again in 1902, getting a splendid stand. Owing to scarcity of labor I could not keep the field sprouted, and last year caught me with as large a stand of sprouts as grass.

I came to the conclusion that, if there was any money in goats, I was certainly situated about right for them. So, last spring, I purchased some high grade Angora goats; remodeled the fence and turned the goats into pasture on the field. So far, I have had no trouble keeping them in this field. They have eaten some grass, but their success in killing weeds is far beyond my expectations, as well as many others who have visited them.

I think I make no mistake when I say that their work during the summer has done considerably more damage to the brush than a close sprouting could have done. Their hair, last spring sheared only 3½ pounds each, on account of their being so thin. They are fat and happy now, and I will try to keep them so hereafter.

CATTLEMEN'S PACKING PLANT.

The scheme of getting the stockmen of the West to put up their money to the extent of $5,000,000 to erect a large packing plant is not meeting with quite the success anticipated by its promoters. Many of the stockmen argue that they can not see where any profit could accrue to the stockholders when the dividends earned are used to bring up the price of cattle, or the increased price obtained for cattle is used in paying dividends. They say this is but equivalent to the very simple and unprofitable procedure of taking coin out of one pocket in order that it may be dropped into another. There are other stockmen who are willing to shine in the directory or any other conspicuous position, provided it costs nothing. If the luster from the use of their names can add to the success of the undertaking, they are willing to furnish the names, but without any untying of the sock leg where they may be carrying a trifling surplus of coin. Some of these gentlemen are occupying high positions in cattlemen's circles, and seem content for the burden of the situation to foist itself upon the man in more moderate circumstances. The latter individual is standing expectantly with his eye on the indicator waiting for some evidence that the big man is going in good and strong before he casts his bread upon the troubled waters.—Kansas City Star.

PASTEURIZING MILK.

Dr. D. E. Salmon, chief of the bureau of animal industry, has for a long time been known as an advocate of pasteurization. In a recent interview the doctor said:

"Among the medical fraternity the opinion seems to be extending that the digestibility of milk is apparently impaired by the process of pasteurization. Subsequently, although the change thus made in milk will not be great, the fact stated leads to a decided preference for milk which is known to be so produced as to need no pasteurization. Although establishments which produce milk of a high degree of purity are now increasing, and natural milk from such sources is preferred to all other, the supply of milk of such quality is comparatively insignificant, and pasteurization is, therefore, still resorted to upon a large scale as a precautionary measure, where the history of the milk is unknown and the presence of objectionable germs is believed to be probable. Those who are able to obtain milk of an entirely satisfactory character in its natural stage do not resort to pasteurization. But the great majority of consumers are obliged to depend upon the general market supply, and many of them regard the protection afforded by pasteurization as of more importance than the slight loss of digestibility which may result from the process.

"Too much of a good thing" was not said about cleanliness in the dairy barn.

The cut used in connection with our article on pasteurizing milk comes from G. G. Wickson & Co., who have furnished nearly all the pasturizing plants supplied to dairies on this coast. The simple and inexpensive construction of the plant renders it desirable.

Anyone can build up a good dairy herd by buying stock whose performance is known. To breed such a herd is a vastly different proposition. The former requires money, the latter, brains.

F. F. Pellissier is putting in a skimming station at Los Nietos.

FOR SALE

4 good registered Jersey Cows
3 grade Jerseys, all big milkers
1 St Lambert Bull, registered

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MINNEWAWA STOCK FARM

Offers For Sale TWO HOLSTEIN BULLS Now in Use in Herd

LEGAL TENDER BLANCO, 26943
Mostly black. Dropped January 1, 1900
SIRE—Nero Blanco, 25002. His eldest daughter, Eva Blanco, 2 years old, has an official record of 14 lbs.. 5 oz. in 7 days.
DAM—Legal Tender, 42315. Private record of 379 lbs. of butter in a year.

SIMONDA DE KOL
Registry applied for. Dropped Nov. 12, 1900. White with black tips to ears and small spots.
SIRE—Iguaro De Kol, 23538. Sire, Johanna 5th, Paul De Kol. Dam, Cascade Princess, official record 17 lbs. in 7 days.
DAM—Mamie Clifden Judith, 43191. Private record of 72 lbs. in 30 days. Average test, 4.2.

Mrs. M. D. E. Sherman - Fresno, Cal.

IT PAYS TO HAVE A U. S. SEPARATOR

It is the best money-making and money-saving machine a dairyman can have.

It makes more money by getting more butter-fat out of the milk.

It also makes more money by leaving the cream in such fine condition, that the butter made from it takes the Premiums at the Fairs and elsewhere. If you do not believe it, read the following letter:

$65.00 U. S. SEPARATOR EARNS $53.00 IN PREMIUMS FIRST SEASON.

SPRINGFIELD, ILL., Oct. 31, 1903.

At the State Fair this fall I took the two Blue Ribbons on Pail and one on Print, the **White Ribbon and Sweepstakes on Dairy Butter.**

I use a United States Separator (No. 8, $65.00) purchased this year, and my premiums amounted to $53.00. Quite a help in paying for my Separator. It is needless to say I am well pleased with it, and find it profitable to have a U. S. Cream Separator.

MRS. W. M. CORRINGTON.

We find by reference to our list of premiums paid on Dairy Exhibits at the Illinois State Fair of 1903, that Mrs. W. M. Corrington received premiums amounting to over $53.00 in that Department, as stated above.

W. C. GARRARD,
Sec'y Illinois State Fair.

The above is only additional proof of what thousands of dairymen all over the country are daily finding out—that

In order to make the most money out of cows, it is necessary to have a U. S. Separator.

Illustrated catalogue free for the asking.

We transfer our separators from Chicago, La Crosse, Minneapolis, Omaha, Sioux City, Hamilton, Ont., Montreal, Sherbrooke and Quebec City. Address all letters to

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PASTEURIZING MILK

The discussion which has arisen in some of the larger cities of this state, between dairymen and city health officials, has created an interest in the method of preserving milk in a healthy condition and eradicating, as far as possible, all opportunity for germs, or spores, to find lodgment in the milk, or the vessels in which it is preserved. For some time it has been conceded by authorities well qualified by experience and tests to give opinions, that the pasteurization of milk is of the utmost importance. The health of the community depends much on the purity of the milk it consumes, as on the water it drinks, for it is a well settled fact that infectious diseases are carried through the channel of the dairy from the cow to the consumer, and that typhoid fever, diphtheria, anthrax and tuberculosis find their most energetic life force in the unclean milk we use.

There are many conditions which may create bacteria and favor its growth; among which the most common may be recited as follows:

At the time of milking contamination may arise from the animal, the milker, or unclean methods of milking. All bacterial diseases affecting the udder of the cow must add large numbers of bacteria to the milk. Then the animal being kept unclean, and this is usually the case, will materially influence the number of micro-organisms. The hairy coat harbors dust and dirt, and the mud and filth usually seen on the hinder quarters of cattle being at or near the temperature of the body, is an all-perfect environment for the growth of the putrefactive bacteria. The milker also is a source of risk. His hands and the clothes he is wearing carry harmful and disease germs to the milk.

Then too, the habit of moistening the hands with a few drops of milk before milking is one of the most common causes of infection. The condition in which the barn is kept will have much to do in creating bacteria and spores, for it has been proven conclusively that uncleanliness in the barn is a source of pollution, for the dry air of a dairy barn is loaded with bacterial life, and sanitary cleanliness is almost unknown in the majority of dairies. Unclean milk cans and milking utensils add their quota to the bacterial contents, and in the summer months any delay in transit affords opportunity for the rapid multiplication of the enormous number of germs present.

In order to obtain a clear and comprehensive idea of the materials employed in an up-to-date dairy, supplied with all the essential equipments for the healthful handling of milk, an examination of the Belle-Vernon dairy was made this week and the statements herein contained find their basis on information obtained from the management of that mammoth plant. All up-to-date milk repositories may be provided with as extensive equipment as the Belle-Vernon—But it is doubtful. One thing is certain, however, and that is, if they are, we would have less sickness and fewer deaths in the community.

The method employed in caring for the milk when it comes to the repository is to deposit it in tanks which have first been thoroughly clarified to take out all sediment; then pasteurized in a tank which had run through it a steam jet, or force, of one hundred degrees, sufficient to kill every atom of life which might find its way into the tank or the milk. The second tank through which the milk passes, cools it down with water to eighty-five degrees, and a third tank cools with brine to thirty-eight degrees—thirty two degrees being freezing point. All this clarifying and pasteurizing is done inside of half a minute.

In this connection it should be noted that the brine tank is used for circulation and the force with which the brine is thrown through the pipes is so great as to exceed the strongest force of steam—being thrown by a pressure of 100 pounds.

The cans and bottles in which the milk is conveyed to and from the repository, are first treated to a wash in lye; then run through steam condensers whose heat is so intense as to kill every vestige of sporatic or germ life which might have found its way into the vessels.

From the steam washers these vessels are removed to a cooling room where the temperature is below thirty-six degrees, and in this room the bottles are filled and from it loaded into delivery wagons and conveyed to consumers.

It will be observed here, then, that the managers of this dairy have learned that the conditions which create absolutely pure milk; that is, control the life of bacteria, are temperature and time. "At 165 to 185 degrees," says Mr. Sessions, "very little if any bacterial life multiplies. The heating process is the essential feature of effective pasteurization, rapid and thoroughly cooling is nearly as important. Pasteurization does not kill the spores of bacteria which may be in the milk, and a few of the highly resistant species usually escape so that it is important to prevent the germination of this organismal residue. Cooling will do this and thus increase the keeping power of the milk. Authorities say: "If hot milk is cooled very quickly its keeping properties are increased, as any bacteria which might still be present are either killed or much weakened by the sudden change of temperature." This is why the milk goes through the sudden change of temperature as it is forced through the various tanks referred to.

The most productive sources of disease in milk, if it leaves the dairy in pure condition, is carelessness in the home or workshop where it is delivered. Many times water is added to increase volume and unless this is thoroughly boiled (which is seldom the case) it adds to the bacterial contents of the milk, its own quota. Then in small homes where milk stands for several hours, usually uncovered, pollution is unavoidable. It is here that germs get their start, and we opine, quite as frequently diphtheria is germinated in the vessels where the milk stands exposed to dust and heat, as from any can in the hands of the dairyman.

But one thing is certain, if the sentiment which the health officers in this, and other cities, is creating in favor of pure milk, clean bottles, and clean vessels at home, shall become so strong as to revolutionize the present method of handling milk as it is generally handled, it will have answered a very salutory purpose and the community will be vastly the gainer thereby.

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Cream Separators — Milk Cans
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MARIGOLD HOLYOKE, 49594..... Sire of best string of heifers in Southern California
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  - Marjoram's Matilda 77944 — Test 19 lbs., 16 ounces, granddaughter of the great Marjoram

We make it a rule of the Lemonita Herd to raise no bull calf from a dam which has not made a record of 400 pounds of butter in a year. The dam of this calf being just fresh for the first time, we can form no idea of her merits as a performer; but the calf's pedigree is so exceptional that we dislike to kill it, and will sell it cheap to someone who will raise it and take his chances on its turning out well. The dam is rugged and hearty and promises well; the sire is the best proven sire in Southern California. This calf is reasonably sure to be good enough to grade up any average dairy herd, and should not be sacrificed. For price address C. W. LEFFINGWELL, JR., WHITTIER, CAL.

LOSS IN SKIMMING.

A. W. Trow of Glenville, Minn., thus writes of his experience in testing the skim milk as it comes from the separator of over thirty different creameries, and the average loss of those tested is 7-1,000 of 1 per cent. A few were found that skimmed down to 2 and 3-100 of 1 per cent. Taking 3-100 as a standard of good skimming, there would be a useless or an avoidable loss of 4-100 of a pound of butter fat for every hundredweight of milk separated. The total loss to a county like Freeborn by imperfect skimming amounts to about 150 to 200 pounds of butter fat per day. Although this does not seem a great loss for a county manufacturing so large an amount of butter, it nevertheless represents a grand total of about $12,000 in the course of a year.

From extensive observations it is the opinion of those associated with the dairy department that the creameries sustain their greatest loss in their skim milk. There is not a place about the creamery that will bear closer watching. Separators should be kept in balance, run at rated speed, milk properly heated and extremely heavy skimming avoided. The skim milk should be frequently tested and a daily record of milk kept, with amount of butter made each day from the same not only as a matter of record, but to keep in close touch with the yield. It is as necessary that the butter maker know his yield of butter as that the miller know his yield of flour.

BOTS IN HORSES.

Editor Cultivator: I see in your last issue an inquiry from A. A. as to a cure for bots in horses. For ages there has been many theories concerning these little pests, and many valuable horses have died for want of relief. Let me give your readers an "old fogy" remedy that I have tried many times in the last thirty years, and have never seen it fail to relieve one time.

There is no danger in its use except that a heavy dose might cause a mare to cast her foal.

Take oil of Tansy, 1 oz., very warm water, one pint. Drench the horse with the above prescription, and repeat in twenty minutes if necessary. The horse will be relieved very shortly, the bots killed, and he will be ready for work.—J. D. Carson, Pomona.

BUTTER AS A MEDICINE.

Butter is so common a commodity that people use it and scarcely ever think what wonderful value lies at their hand in the parts of dainty yellow cream fat, says the American Cheesemaker. Of course, they know that it is useful in many branches of cookery, and that without its aid the table would be bare of its thinly rolled bread and butter, its delicate cakelets, and its other usual accessories. Beyond these uses the value of butter is a thing only vaguely thought of.

But this delicate fat is as valuable as the dearer cod liver oil for weakly, thin people, and doctors have frequently recommended the eating of many thin slices of bread thickly spread with butter as a means of pleasantly taking into the bodily tissues one of the purest forms of fat it is possible to get.

Butter is a carbon, and all excess of it is stored up as fat in the body. It gives energy and power to work to those who eat heartily of it. So it is not economy at table to spare the butter, even to the healthy folk. For any one afflicted with consumption, butter cookery, if plenty of fat can be digested, is one of the best ways of curing the disease, if it is in its early stages, or of keeping it at bay if advanced.

DIFFICULT TO SAY.

Editor Cultivator: What can one afford to pay for whole barley to feed to hogs selling at six dollars per hundred. Barley to be fed with pie melons or pumpkins?—Subscriber.

The price at which barley is selling makes it difficult to tell what one can afford to pay when fed to hogs. Hogs vary a good deal in fattening quality as in market price. But to finish for the market and finish quick there is nothing better than barley except corn mixed with a little oil cake.

VALUE OF SKIM MILK.

In response to an inquiry by a correspondent of the Orange Judd Farmer, Dr. Wiley of the United States department of agriculture reiterates his opinion that skim milk is a valuable food both for man and other mammals. Extensive experiments have been carried on with skim milk in the feeding of the lower animals, and the results of them are found recorded in the bulletins of many of the experiment stations. It is a well known fact that skim milk is extensively used as a human food in almost every farmer's family in the United States. It is wholesome and nutritious, but used alone makes a narrow ration, that is, a ration in which the nitrogen element of the food is largely in excess.

In round numbers, skim milk may be said to contain 3 per cent. protein, 5 per cent. sugar, and 7 per cent. ash, consisting largely of phosphates. To balance a ration in which skim milk forms a large part, bread poor in gluten, may be used, or a bread richer in gluten, together with potatoes and butter. A well balanced meal of a simple and nutritious nature may be made of 500 cubic centimteers of skim milk, 150 grams of potatoes, 100 grams of bread, and 25 grams of butter. This is a ration on which a man could do a lot of work, mental and physical.

DECEITFUL COWS.

Last week several milk producers were brought before a Chicago justice of the peace to answer to the charge of adulterating milk or of selling milk below the standard. Some of them proved to be good, honest farmers with no intent to violate the law, but the evidence was such that the justice decided to fine their cows $5 for giving poor milk, and the owners, as accessories after the fact, were required to pay the fine, says Farmers' Review.

It is indeed a sad state of affairs, remarks the Farmers' Sentinel, when even the mild eyed, innocent cow, friend of man and partner of the hog in the business of mortgage lifting, participates in the general degeneracy of the times and betrays those who have trusted her. If this sort of thing continues, a milk auditor will be required on every dairy farm.

C. W. Leffingwell has a young cow that recently dropped a bull calf. The cow has not, of course, made a record, and Mr. Leffingwell does not know what she will do. The calf is too fine to fatten for veal and yet Mr. Leffingwell does not care to keep it without knowing more about the milking qualities of the dam. The calf is finely sired and would be, doubtless, a good buy for some dairyman desiring a full-blood bull later on.

The dam of this bull calf, has 50 per cent. of the blood of old Pedro, with whose breeding, prepotency and virality all Jersey breeders are familiar. Few animals can be found nowadays with so great a per cent. of Pedro's blood, and the owner of this heifer hopes for great things from her calf as a performer and breeder. She has an immense barrel, and a bigger appetite. Although only a few days in milk, with first calf, she is giving over 16 gallons per day, and increasing at a steady rate, giving promise of bearing a good performer.

Butter is not a simple fat, composed of merely one sort. It is a mixture of no less than seven different sorts of fats, and no more complex oil can be taken than this is.

In curing a heifer of the habit of kicking, the place to begin at is the man.

Save feed now, and waste feed a month hence.

Every atom of heat lost by the dairy cow lying out on the cold ground these November nights must be made up for by increased feed or decreased production.

Have you ever tried to find out how much actual profit old Brindle is making you?

Go slow on corn in feeding dairy cows, but don't cut it out entirely.

Fed on a north wind through the cracks of a barb wire fence. 'Twasn't your heifer that was said of, was it?

KNOWS IT ALL.

No matter how valuable a paper an editor may make, he cannot hope to please everybody. The daily correspondence of the Dairyman office shows up human nature in a highly variegated shape. Here is an example: A man at Auburndale, Wis., writes us that he knows all about dairying now; that there is nothing for him to learn, and he won't have the paper. Is he not just the man to put on the editorial staff. Where else could we find a man who knows all about dairying?—Hoard's Dairyman.

Ranchio Verde people are putting in a new separator and boiler at Victorville.

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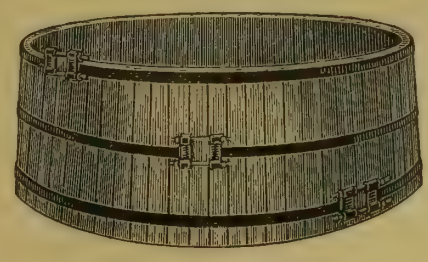

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Have two more of those good young boars ready for service. Also others from litter just weaned. Reasonable prices.
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BOARS—ARTFUL LEE, 52930, Champion Boar, California, 1900, PACIFIC DUKE, 56691, three-quarter brother to N. H. Gentry's famous Lord Premier.
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We are offering for sale at very low prices a magnificent lot of bull calves. In our herd may be found all the leading families of this great breed of Dairy Cattle. There is no grade equal to the get of a fine Holstein sire on common cows. Visit the ranch, or write
R. M. HOTALING
Rialto Building San Francisco, Cal

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

EGGS FOR MARKET.

There may be said to be three different branches of poultry business:

First, eggs for market.

Second, poultry for market—broilers, fryers, roasts, capons and old hens.

Third, fancy stock, that is hens bred to win, thoroughbred fowls bred for a purpose, either to be first prize winners for their beautiful shape and plumage, or for laying the greatest number of eggs.

These three branches are exceedingly interesting, but probably the most practical is the "eggs for market," so we will today take up that subject.

* * *

The hen, in her wild state, lays about thirty eggs in a year. The farmers' average hen lays about 100, while on egg farms the average is about 150 eggs, and some breeds or strains will average more. There are 365 days in the year and I do not see why a pullet that is fully matured and comes from an egg-laying strain, that is properly fed and cared for, should not lay over 200 eggs—in fact I have several hens that do even better than this.

I will admit that a hen will not lay 200 eggs a year without constant and intelligent care.

Will the additional number of eggs pay for this constant and intelligent care? That is the question; also, how to give this care and secure the results. I believe in having a high ideal and in attaining the top of the ladder, having the biggest egg yield and the finest birds. It means more work, brings more money and more thorough enjoyment and fun than if I were content to take what comes along—excuse my being personal; I have done it and know what it is. For six years I have been breeding for eggs and now have the 200-egg hen and over. Heredity has as much to do with my hens as handling. Heredity (or pedigree) and handling must go together. The 200-egg hen must be bred to lay. She must come from an egg producing strain, no matter how scientifically a hen is fed, or how well housed. It is impossible to take a flock of mongrels and get 200 eggs a year from them, although good handling will increase the yield, even of mongrels.

What do you call good handling? Intelligent care, just as a mother would care for her children; hens are very much like human beings, have different dispositions and characters, like human beings. The different breeds require different handling, but no matter what breed you have there are three essentials to egg production: comfort, exercise and proper food.

* * *

Under the head of comfort comes first of all cleanliness. A hen that has any lice, or fleas, or mites or ticks on her cannot lay her full amount of eggs. You must help the hen in her efforts to make you money—give her every encouragement to lay. Cleanliness, comfortable, enticing nests, with a mothball in one corner, no lice in them, rather dark, where she may quietly and stealthily deposit her precious egg. If you use trap nests, be sure to have plenty of them so the hens will not be kept waiting. By keeping a hen off the nest she will frequently retain the egg until the following day and learn to be a poor layer. Clean, sweet-smelling roosting place, where she may sleep undisturbed by mites or lice. Just think for a moment how in the human family a fresh, clean bed will court slumber. I have slept, or rather I have spent the night in an Arab house in Africa that was infested with fleas, and I can sympathize with a hen in one of the mite infested henneries I have seen in California.

Comfort, exercise and proper food are the prime factors in successful poultry work. You know, in the human family how greatly exercise is in vogue. Physical culture, gymnastics, Ralston exercises, Swedish movements, fencing, etc., and those who are too feeble to exercise for themselves pay others to rub and pound, or massage them to get the same effect. Exercise is as necessary for the hen as for the human being and more so—for the hen's exercise of scratching develops the egg-producing organs, and makes them lay; if you have a vigorous scratcher amongst your fowls you will find she is a good layer.

In the natural state a hen runs or walks miles, scratches and digs, hunts for worms, bugs, seeds, finds a soft place, lies down and takes a dust bath and rest, then is up again to hunt some more and keeps at it all day—how about a hen in captivity? Kept in a dry, hot, sunbaked yard, foul with droppings, with a little warm, dirty water to drink! What an insult to demand eggs of her!

Exercise she must have to develop the egg producing organs; she absolutely must scratch and dig, if she is to make a living for herself and for you. A scratching pen is for hens in confinement as necessary as food. Mine are 12 feet long, eight feet wide and twelve inches deep, filled with nice clean wheat straw. All the grain is scattered in that and the hens scratch and dig happily all day long, the straw gets broken into small pieces in a very short time, and for every grain she picks up she burys two. Scratching pens can be made any size. I have nailed four boards six feet long together and left a small tree in the middle; this gives shade and keeps the tree mulched. I also spade a place round a tree for the hens' dust bath, and when they are not scratching for a living in the straw they are digging in the fresh earth and bathing in the dust, so keep themselves clean as well as busy. Exercise prevents hens becoming fat and lazy, having small and infertile eggs.

* * *

COMFORT, EXERCISE, PROPER FOOD.

Proper Food.—Here is where intelligence comes in, and here I have learned much by using other people's brains, and as Edgar Warren suggests, let us interrogate nature, and get some of her valuable suggestions—let us take a hen as she comes from foraging in the fields after a long day in summer, kill her and examine her crop—what do we find, grains of wheat, barley, corn, according to where her rambles have led her; bits of grass, clover and vegetables, here a little grain of gravel and a lot of matter partially digested that we cannot recognize. The first thing that impresses itself upon us is that the hen likes variety—the second thing that this variety consists of animal food (bugs, worms and insects), grain and vegetables.

Following nature we must combine these three elements to make a perfect food, or as the scientific poultry books call it, the "balanced ration." Grain, green food, and animal food are the balanced ration. Or, to put it more crudely, the hen is an egg machine (some machines work better than others); put into this clean, well working, active machine the proper condiments and eggs will come shelling out in such quantity that it will surprise you.

The problem is not so much what to feed as how much to feed. Here is where study comes in, where the different breeds have not only to have different food, but especially a different quantity for the best results. It takes a good deal of study to find the happy medium between underfeeding and overfeeding, but I would rather feed too liberally than not enough.

In order to determine how much food is necessary, let us again interrogate nature. Let us weigh the contents of the crop of the hen we killed, a healthy Plymouth Rock, one of the American breeds, coming home at night with her crop full. The crop and contents will weigh about six ounces. From this Edgar Warren deduces that the amount to be fed to a hen should be six ounces a day; or, as he says, a good rule is one ounce for every pound weight of hen in confinement. This is a fair rule, but it entirely depends upon the composition of the food, and also upon the breed of the hen, some breeds requiring more and some less, and for this reason I find it easier and more profitable to handle one breed. It is the same with the different breeds of cows, horses and hogs.

I find with my fowls, White Plymouth Rocks, that I get the best results by varying the food according to the conditions, that is when the hens are moulting they require more protein or feather and bone and muscle forming food, in cold or damp weather more carbo-hydrates or fat and heat energy forming food; in hot weather more vegetable food; so my rations vary with the condition.

(To be continued.)

* * *

The Cultivator Pub. Co.: I would like to ask your lady of the Poultry Department what is the cause of scale on legs of chickens, and also the cure, if any, and a remedy to get rid of the red mites in the chicken house.—Harley P. Hudson, Escondido.

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WORTH OF
Croley's Dry Mixed Chick Feed
Will carry 500 chicks safely over the Danger Line—all of them. Most economical. No cooking. No mess. Always ready to feed. Saves time. Saves labor. Saves millions of chicks.
25-lb. Sack for 125 Chicks $1.00 — 50-lb. Sack for 250 Chicks $2.00 — 100-lb. Sack for 500 Chicks $4.00
Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.
Geo. H. Croley, Poultry Supplies
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every ten days. Scaly legs are caused by a small mite which burrows and breeds under the scales. Wash the legs in good hot soap suds and twice a week rub well into them the following: Equal parts of lard, kerosene and sulphur. Paint the perches with lice killer.

For killing mites in hen houses long and full directions were given in the Cultivator of October 16. If you have lost these papers send stamps to the Cultivator office for more.

THE SAN FRANCISCO SHOW.

SAN FRANCISCO, December 1.—This is the opening day of the show and the din of hammers and saws and the running of trucks over the floor comes near drowning out the crowing of the proud birds in the coops. As usual, the first day is get-ready-day.

However, there is already enough in place to form an idea of the wealth of the exhibit. The commercial side is quite prominent. That is, dealers in poultry supplies have good exhibits of their wares.

The most prominent sign is that of the Petaluma Incubator Co. and is across the entire end of the auditorium of the Mechanics' Pavilion. Underneath it are incubators, two pyramids of them, also other incubators with the chicks hatching. Midland Poultry Food fills a large space of the Petaluma exhibit and makes a fine display. Besides, the company have brooders, drinking fountains, bone crushers, "stuffers," lice killers, coops—yes, coops of all kinds, for exhibit, for shipping and for commercial poultry. The International foods and condition powders come in for a fine exhibit by the same company. This exhibit is in charge of H. W. Emerson.

To the right is the Ideal Incubator Co., of San Jose. Mr. Smith and his son are just installing an exhibit of that popular incubator. By tomorrow they promise to have the chicks hatching and at the rate of about one a minute.

The A. R. Coulson Company have a great showing of egg food. Surrounding and above the booth are mammoth car banners, such as the company decorates its cars as it sends out the long distance car load shipments. Samples of the various ingredients, such as meat meal, dried blood, rice meal, millet, oats, etc., are displayed in bottles. Coulson also has lice killers, chick foods, spray pumps, fountains and many other necessaries of the up-to-date poultry raiser. Mr. Sims is in charge until Mr. Coulson arrives, late in the week.

Mr. Bessey, of the Jubilee Incubator Company, has a large exhibit of the Jubilees. The only thousand egg machine agoing is busily hatching its big brood and as proud of it as any motherly old hen over her unlucky thirteen. On top of the monster thousand-egg machine is a baby sixty-egger, doing its duty just the same as the bigger one.

Other exhibits will be installed later and spoken of in a later issue.

But is there no poultry? Sure! Scads of it. Fourteen hundred entries. In pigeons over 300 entries. Dogs and cats are just beginning to come in, but there are some beauties.

One of the judges informed me that the display of poultry is an exceedingly fine one, the best ever assembled on the coast, but unfortunately, owing to the lateness of the moult, the markings could not be as high as if the show had been a few weeks later.

Nearly all breeds are represented, and, as a rule, quite fully represented. One string which attracts much attention is a number of Buff Orpington cocks and cockerels, direct from England.

The Fair Oaks Duck Farm, of Oakland, has ten varieties of ducks—beauties, every one.

The southern part of the state is represented by Los Angeles, Riverside and San Bernardino county exhibits. More particular notice may be given when all the exhibits are installed.

The general managing committee is made up as follows: Chas. R. Harker, San Jose, Cal.; L. N. Cobbledick, Oakland, Cal., Norman J. Stewart, San Jose, Cal., C. G. Hinds, Alameda, Cal., O. J. Albee, Lawrence, Cal., J. C. Williams, Fruitvale, Cal. The latter named gentleman is the secretary.

The judges in the poultry class are: Henry Berrar, San Jose; L. N. Cobbledick, Oakland; C. G. Hinds, Alameda, and S. Tyler, of Pasadena.

The poultry exhibitions of California for this season are as follows:

Mechanics Pavilion, San Francisco, Cal., December 1-5, 1903, under management of the Oakland Poultry Association. J. C. Williams, Secretary, 33 Market St., San Francisco, or Fruitvale.

Los Angeles, Cal., December 8-12. 1903.—Twelfth Annual Exhibition Los Angeles County Poultry Association, to be given in Hazard's Pavilion. Comparison judging. Henry W. Kruckeberg, secretary, 123 S. Los Angeles St., Los Angeles.

San Diego, Cal., January 6, 7, 8 and 9, 1904.—The San Diego Poultry and Pet Stock Association. Harry McIntire, secretary, San Diego.

One of the first things a beginner desires to know is which is the best breed for him to handle. It would appear to him that this ought to be an easy question to answer, and yet it is one that can hardly be answered by even the veteran breeder. It is no nearer a solution now than it was a score of years ago. It probably never will be answered satisfactorily to all breeders. It is very readily seen that the breed that would be best for one person or one locality would be wholly unsuited for another. For this reason the person, the environments, the climate and the market conditions must be factors in determining which is the best breed.

It never pays to keep old hens and young pullets together if it can be avoided. The nearer of an age the flock is the better will be the results obtained.

The pleasure to be derived from pure-bred poultry is incomparably greater than from mixed or mongrel stock. It costs little, is worth much. Have it.

Any of our readers who contemplate buying pure-bred chickens for next year's breeding will do well to make their purchases as quickly now as possible.

S. R. Kellam, Pres. C. T. Paul, Vice-Pres.
Geo. Pomeroy, Treas.

The Poultry and Pet Stock Show of the Season

THE

12th ANNUAL FIXTURE

OF THE

Los Angeles County Poultry Association

TO BE HELD IN

HAZARD'S PAVILION

LOS ANGELES

December 8-12, 1903

It is the purpose of the Los Angeles County Poultry Association corporation to not only make the coming fixture a "good thing" in so far as quantity and quality of exhibits are concerned, but a great gathering of breeders and fanciers calculated to strengthen and stimulate fraternity and develop the poultry industry. In this laudable ambition it expects and asks your cordial support.

The judging will be by comparison with Messrs. Cobbledick, Tyler, Butler and Venn in the saddle.

The awards will consist of honors, many valuable specials and cash premiums.

Admission 25 cents; children 10 cents Send for premium list and entry blanks.

Henry W. Kruckeberg,
Secretary
123 S. Los Angeles St., Los Angeles

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The "Business" Machines of the World
Use the Jubilee—There is every reason why you should and no reason why you should not.
We make them in sizes from 60-eggs to 1056-eggs capacity—Every one perfect. If you are interested in poultry for profit send for the Jubilee Catalogue No. 30.

JUBILEE INCUBATOR CO. OAKLAND CAL.

ROUP and CHOLERA

First know what is wrong with your fowls before giving medicine. Some would tell you that there is no cholera in this country. Try a package of Palmer's Cholera Remedy in all cases except Diphtheratic Roup, and you will find it effective.

PALMER'S POULTRY POWDERS

Trade Mark

We have what you've been looking for—a guaranteed cure for Roup and Cholera—something that cures in every case if used according to directions. Palmer's Poultry Powders—the only infallible remedy ever offered the public for Roup and Cholera. Manufactured in your own State by the

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White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.

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Ask your nearest dealer for them and take no imitations.

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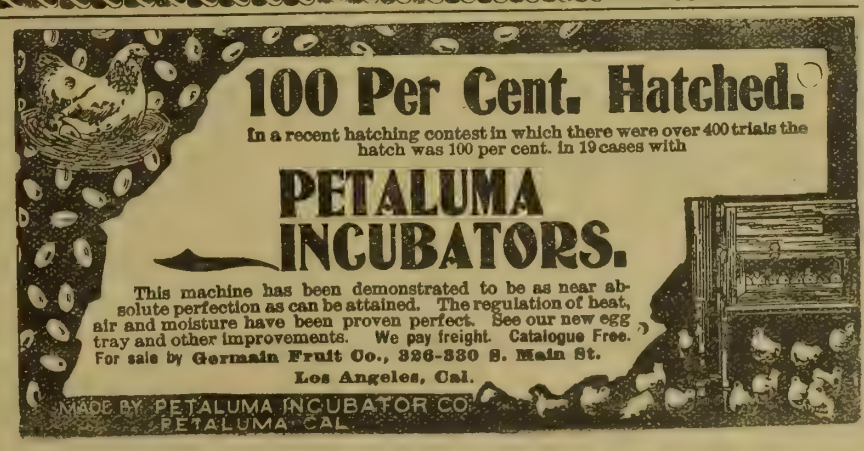

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Will make your fowls moult in one-half the time, which means they will lay that much sooner. "Laying fowls are paying fowls." You wlll not be disappointed at the results you get from feeding Midland Feed.

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Is what you should feed your hens now, and the results you get will surprise you, for we know it will prove a paying investment. Our book, "The Science of Poultry Feeding," will tell you more about this feed. Send for it. It is FREE. Also

No. 1, Nursery Chick Food
No. 2, Growing Chick Food

We will be pleased to give you further information about this feed if you wish it. WRITE FOR PRICES.

The Only Reliable Balanced Ration for Poultry in the World.

These special foods are composed of the very best materials obtainable and as carefully and accurately mixed as it is possible to make them. They are a COMPLETE FOOD and will produce specific results, each for its purpose, and no other. We want you to become an established customer of ours. We want your trade, be it little or much. There is only one way we can secure it **and** that is by sending you material that will do what we claim for it.

The Midland Feed will cost you very little more than any good grain you now feed, and no more than you now expend for all the extras you must use in addition to your grain, and the results will be so far in excess of any previous experience you have had that you will readily acknowledge its value.

What the poultry man must be able to count on to a certainty is RESULTS.

The following buy in Carload Lots and act as our distributors in their respective localities, supplying the dealers and consumers:

FREDERICK BROWN, San Jose, Cal.
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LILLY, BORGARDUS & CO., Seattle, Wash.
PETALUMA ROCHDALE ASSN., Petaluma, Cal.
PHOENIX MILLING CO., Sacramento, Cal.
HENRY ALBERS, Los Angeles, Cal.
LUBBEN BROS., Alameda, Cal.
PORTLAND SEED CO., Portland, Ore.
SANTA ROSA ROCHDALE CO., Santa Rosa, Cal.
GEO. P. McNear, Petaluma, Cal.

Petaluma Incubator Company

Pacific Coast and Trans-Pacific Agents

Main Office and Factory, Petaluma, Cal.
Eastern Office and salesroom, Indianapolis, Indiana.
San Francisco Office and Salesroom, 33 Market Street.

THE APPLE ORCHARD.

(Continued from first page)

Red June.—Twenty-five years ago, a great many apples of this variety were sent to the San Francisco markets, but of late years they have not been so plentiful, and probably the reason may be because they are not so profitable as some other varieties. But for the family orchard they should not be ommitted. The tree is never a robust grower, yet finally makes a good sized tree if properly cared for. Red June apples are not large but rather below medium in size, but they make amends in quality, and appearance. When ripe and fully colored, no apple is more attractive as dessert fruit. Children know good apples and the way they call for Red Junes in one family, proves their popularity.

Gravenstein.—This apple certainly heads the list for quality among all summer apples. Whether profitable or not, as a market apple I do not know, yet I know that a considerable number of trees are being planted in some localities in recent years. But for the family orchard there is no apple that can quite take its place. The first Gravensteins begin to drop about July 4, and for 60 days thereafter, no family with one or two trees of this variety will be without apples for any use that apples may be put. The Gravenstein is a robust grower and a regular bearer if treated right. If allowed to overbear one year, the crop will probably be light the next, but when properly thinned, there will each year be a nice crop of good sized fruit. The Gravenstein is quite uneven in size, that is, the apples on one tree will often vary from two to four and one-half inches in diameter. No matter how large they grow, they are always fine grained and delicious, the small core is one point in favor of the Gravenstein.

Skinner's Seedling.—This is a Santa Clara county production, having originated about forty years ago in this valley. It is not the most desirable market apple, yet it fills a place in the apple market, quite satisfactorily, although the tendency among growers is to pick too green, because when just ripe enough for use, they are quite tender and bruise badly when shipped long distances.

This variety like most others in California, is prone to overbear, and consequently we see in the market many undersized apples, which are not so good in looks or flavor as when grown to normal size which is somewhat above the average. Fruit is green in color, sub-acid, good for sauce, baking, pies, or eating from the hand.

Fall Pippin.—These apples grow in perfection here, and are not surpassed as a family apple, during the month of September, and will keep a month longer, but lose flavor rapidly, unless closely boxed. The apples are large, fine grained, general purpose apples, green in color, sub-acid.

Jonathan.—In season, October and November, without special treatment, Jonathan should always be closely boxed as soon as picked to preserve their delicious juiciness and flavor. The Jonathan is a beautiful apple when properly colored on the tree, in fact I know of no more attractive fresh fruit for the table, and the boys always want Jonathans for their lunch at school.

The tree is not a strong grower and the foliage is delicate and easily injured when spraying, but good crops of medium sized Jonathans may be obtained yearly if well thinned.

Bellflower.—This is one of the varieties so largely grown in the Pajaro Valley, for shipment east and the demand both there and locally seems to be always greater than the supply. It seems that California climate is well adapted to the perfect growth of the Bellflower, for the size, appearance and flavor of the apples grown in California leave nothing to add. They are par excellent.

White Winter Pearmain.—Why this variety should have been designated as White is difficult to understand, for as compared with the yellow Newtown Pippin, one has as much right to be called yellow as the other, and they are both yellow when properly ripened. It is true that both varieties are often picked too green, (for shipment long distances) and then do not attain to the color that proves the mature and ripe apple, but as grown in this state; ripe Pearmains are yellow and often reddish yellow, quite attractive and saleable.

The W. W. Pearmain is not a cooking apple, but an excellent baker, and good to eat from the hand.

Yellow Newtown Pippin.—This is probably the leading apple in California. Possibly two-thirds of all the apples grown in this state are Newtowns, and still the people call for more. It brings the highest price of all apples, both at home and abroad, and contrary to the rule, that a good market apple must be red in color, the Newtown is yellow or greenish yellow, and is not an attractive apple in the fruit stores, except to those who know its quality, and its friends are many, and still increasing in numbers.

From October to May inclusive, eight months in the year, it is possible to have fresh Newtown Pippins, and during those months there is no fruit that can equal it or take its place. If sauce is wanted, or pies, or baked, apples the Newtown is first choice and what apple or any other fruit, is better to eat from the hand during its season, than a well grown, ripe Newtown Pippin?

"When in doubt, plant Newtowns," is good advice to any who contemplate planting an apple orchard.

SUBURBAN IMPROVEMENT.

Now that the fall sessions of the Farmers Institutes are commencing it will be well to incorporate in the programme of the meetings the discussion of some subjects which pertain to the improvement of the general community.

There are some interests which blend in common and which may be discussed, to the advantage of all at each meeting of farmers. Good roads, good schools and rural street improvements are topics which are vital to the prosperity of the country.

Good roads come prominently to the fore in all public thought because so much hangs on their development. Without them we cannot have rural free mail delivery, which has come to be one of the farmers' greatest necessities. In establishing mail routes the condition of the roads is of first moment, and inspectors have the power to turn down, as they do, all routes laid out over badly organized lines of roads. It is simply out of the question to obtain a route where there are impassible fords or boggy, muddy lanes. Added to this is the convenience derived from the use of well made and thoroughly oiled roads.

We believe every family who uses the public roads should be enthusiastic in the matter of their improvement. The women in their clubs should urge the county and township authorities to more diligent action in the making of the roads; the men should be emphatic in their demands that every dollar of road tax shall be expended in making the best roadways that money honestly expended can make.

Land located on well oiled or macadamized roads, with free mail delivery, is worth double what land situated on poorly constructed roads is worth. With good roads the value of the farms would, perhaps, be nearly equal. It is the inconvenience of getting to market and the convenience of good roads which makes the difference in the cost of land similarly situated.

Closely associated with good roads is the centralized school question. Those who have given the subject of centralized rural schools attention, and especially those who have tried the same, are enthusiastic supporters of the proposition.

Under the time honored system of small, isolated neighborhood schools, with few pupils and fewer facilities, where many children in bad weather, must wade through mud ankle deep, or remain at home, and the exposure to rain and cold, costing doctors' bills if nothing worse, in addition to loss of time, is in the end far more expensive than the centralized schools recently adopted in several of the states. Centralized schools require transportation of pupils. Generally they are taken by contract to and from school in covered hacks, properly provided with robes and rugs for cold weather, and the children are put out at the school house at a specified time and delivered at their homes with promptness. In warm countries centralized schools are a great improvement over the old and prevailing method, but bear a direct relation to the public roads. There are many sections of country where for long periods during the school term, the transportation with regularity would be impossible on account of the condition of the roads. Good roads are necessary to good schools under any system, but especially where children must be transported several miles, and from many points of the compass. There can be no consolidated, graded rural schools without good roads whereby these schools may be reached.

Congress is now giving close attention to one or more bills which have for their object national aid to the state good roads fund. If either the Brownlow or Lucy bill shall pass, a revolution in our road system will speedily occur, and the country will derive such benefit as has never been dreamed of by the most enthusiastic advocate of good roads.

"Did you ever know it to fail when a kind word is spoken to your horse, that he will not show, by his eyes, his appreciation of your attention? If you have not noticed this, just try the experiment.

THINK TWICE.

He—"Think twice, love, before you refuse me."

She—"Why should I think twice?"

He—"Because, my dear, a woman never thinks twice the same."—London Judy.

INTELLIGENT FERTILIZING
SUCCEEDING

If you are thinking of using fertilizers you will be interested to know that ninety-eight per cent. of our contracts have so far been renewed. This means that we have rendered good service by intelligent direction in the use of fertilizers, and saved our patrons money as well.

Remember, we are absolutely unprejudiced, as we have no interest in any fertilizer, and any general dealer in fertilizers can supply the materials we direct.

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DIRECTOR FERTILIZER CONTROL
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TREE PROTECTOR
Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

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12 inch long,	$ 9.00	per 1000
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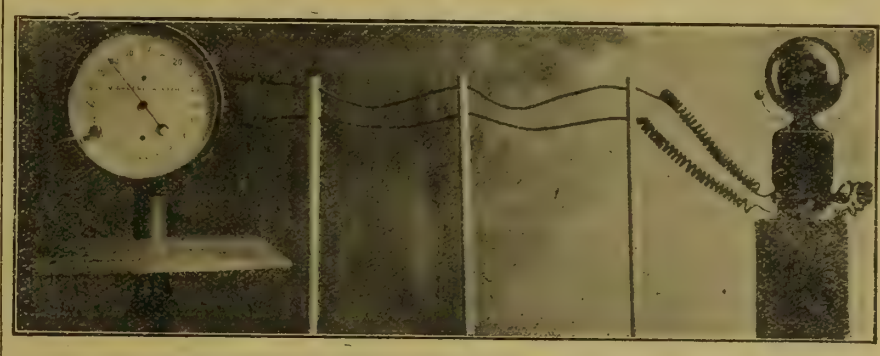

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"I am perfectly satisfied with the results. It furnishes sufficient heat to prevent frost damage during periods of cold weather and does not smut the fruit or trees."—N. W. Moodey, Glen Ellen Orange and Lemon Grove, Centerville, Fresno Co., Cal.

"During the recent frosts the oil pots saved our crop except a few on the outside of the ten acres of Valencias."—W. R. Wood, Exeter, Tulare Co., Cal.

Forty pots to the acre gave me all the heat I needed for protection. I estimate that the crop saved on the Camilla orchard this season is worth $20,000. The fruit is healthy, with fine flavor, weight and color."—N. G. Simms, Camilla Orange Grove, Lindsay, Tulare Co., Cal.

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

ROSES.

Editor Cultivator. — Please give, through the Cultivator, a list of fifteen of the best kinds of roses for soil and climate near Glendale. Also, what is the best fertilizer to put in when roses are planted?—A. C. M.

Climatic conditions are not taken into consideration within the country adjacent to Los Angeles, so that the lists heretofore published in this department will generally apply to all of Southern California, both as regards climate and soil. In the case of Glendale, however, if you are in the sandy or gravelly belt you had best restrict your list to teas, for they do much better in light soils than the hybrid perpetuals. The following list will do well in the soil noted: Bride, Bridesmaid, Catherine Mermet, Cornelia Cook, Duchesse de Brabant, Eliza Sauvage, Improved, Rainbow, Madame Joseph Schwartz, Maman Cochet, Marie Van Houtte, Papa Gontier, Perle des Jardins, Safrano, Sunset, White Maman Cochet.

The above named fifteen are teas but to this list should be added two hybrid teas, which will no doubt do well in sandy soil, or you might leave out Sunset and Madam Joseph Schwartz, and substitute Kaiserin Augusta Victoria and Madame Caroline Testout. Both are grand roses. Roses are best planted out while dormant, with bare roots, and no fertilizer should be used until bushes have made sixty days growth. If planted from pot or can, any well-rotted manure will do. As a fertilizer for bushes growing vigorously, cow manure is best.

MILDEW.

Editor Cultivator.—What shall I do for rose bushes affected with wildew, especially the Marie Henriette. How should the latter be pruned, to a single stem?—Subscriber, Claremont.

Mildew is a hard thing to combat, especially on the Reine Marie Henriette. The trouble is largely due to sudden change of temperature, which is aided by injudicious watering. The great difference in temperature between night and day should be equalized as much as possible. The days are hot and dry, therefore water and spray in the morning before the sun's heat becomes very strong, the roses will then have taken in enough water to stand the dry air while this air will be less dry by reason of the soil surface being wet. By watering, in the evening, after a dry day, you give the rose a damp chilly night air, just the reverse of conditions during the day. How can you expect any plant to stand such treatment. Roses as a rule get water too much. When they need it, irrigate them well, very well, and then spray the tops to wash off the dust, etc. A spray with Bordeaux mixture is quite effective for mildew, and so is sulphur dusted on the leaves, allowing some to fall on the ground, if it be dry.

All climbers should be left with several stems, four or six is none too many; why seek to get supplies for a heavy crop through one medium when you may as well use a half dozen?

DECIDUOUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

A CHOICE FIG.

Each year renews our enthusiasm over the Verdal Longue fig. At this time, when all of our best fall figs are becoming watery and insipid, this fig is now at its best. The branches are bending with loads of fine fruit, some of it beginning to drop it is so ripe. While it has not the delicate flavor of earlier figs, it is free from souring and is rich and syrupy. Light showers do not materially damage it, and in locations near to a city and where frosts do not prevail, it should prove a valuable fruit. The color of the skin is bright green, turning to reddish with white showing through the cracks in the stem when ripe.

* * *

PEACHES AND CREAM.

We are now enjoying peaches from Baldwin's Late, and they have the true peach flavor with no bitterness. Peaches and cream are not generally found on most farmers' tables at this season of the year, but there is no reason why they should not. Though this variety is a shy bearer, it pays for the space it occupies and should be in every home orchard.

The station solicits the names of persons who have late or any variety of seedling fruit that gives promise of being valuable. It has a block of trees preserved for grafting promising new seedlings onto, in order that they may be tested for comparison with other varieties.

ABUNDANT RAINS.

Northern and Central California have been visited with copious rains, and the ground which has been soaked in every grain growing district is in prime condition for seeding. The summer fallow which has been dry sown will now spring up and progress with no great amount of needed moisture. The rains of last week were so long in coming and so penetrating that the cereal season is starting fully as well as 1902. If the rains hold out as well as last year, the grain growing section will be as good, if not better than last season, and the state will again witness great prosperity.

IMPORTANT WATER DECISION.

One of the most important decisions in water right matters was taken this week by the Redlands Water company, in which a majority of the stockholders agreed to join the Bear Valley Mutual Water Company and to become a part of said organization. For some time past there has been a conflict of opinion between the members of the Redlands Association, a large number of whom have held that their certificates entitled them to participate in the water of the Bear Valley company, without joining the association. A majority of the Redlands Water company's shareholders however, prefer to join the Bear Valley company, leaving the question at issue in abatement. This decision, says the Citrograph insures the Bear Valley Mutual Water Company to this valley provided that the Cleveland Trust company and the people whom it represents, take a reasonable view of the situation and act accordingly. It removes the only obstacle apparent at the present time to the consummation of this great enterprise, the most important and far-reaching, in its possibilities of good, of all enterprises in our history.

The disposition of $1,000,000 in rebates is alleged by Referee Wean, to have been made to James S. Watson, while president of the Porter Brothers' Company, which failed about two months ago. It is further said no explanation is made in the books of the company why this sum was paid, as it appears to have been.

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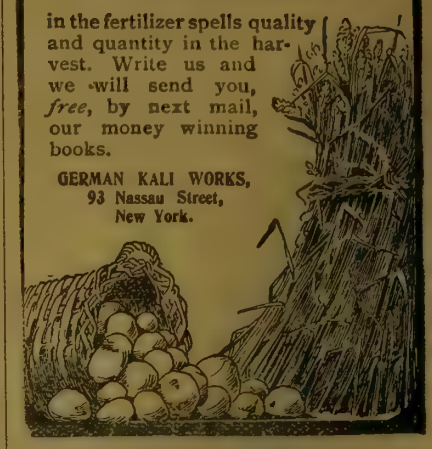

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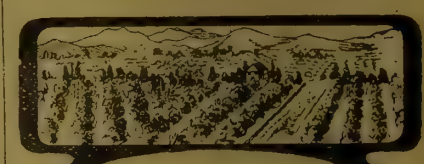

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SOME OTHER DAY.

"There are wonderful things we are
going to do,
Some other day;
And harbors we hope to drift into,
Some other day,
With folded hands, the oars that
trail,
We watch and wait for a favoring
gale
To fill the folds of an idle sail,
Some other day.
"We know we must toil if ever we
win,
Some other day;
But we say to ourselves, there's time
to begin
Some other day;
And so, deferring, we loiter on,
Until at last we find withdrawn
The strength of the hope we leaned
upon,
Some other day.
"And when we are old and our race
is run,
Some other day,
We fret for the things that might
have been done
Some other day;
We trace the path that leads us
where
The beckoning hand of grim despair
Leads us yonder out of the here.
Some other day!"

GRATITUDE OF AN INDIAN.

When Major Henderson of the —th United States cavalry was a second lieutenant serving on what was then always referred to as "the plains" he one day came upon a party of Arapahoe Indians who were about to burn a young Ute at the stake. Indeed the flames were curling about the boy's legs, and he was beginning to feel the agony of burning. Henderson, who had sufficient troopers back of him to warrant interference, dashed in, kicked away the fagots, cut the throngs and set the boy free. Then he took the Indian to camp, where a surgeon dressed his wounds, and after his recovery sent him to his tribe.

When Henderson left the army he gathered a number of Indian implements of various kinds, which he took with him to his home. They were blankets, feathers, moccasins, beads, pipes and a few weapons, such as were used before the red man got the rifle, including bows and arrows. These the major hung about the walls of his smoking room, a profusion of calumets being especially appropriate.

The curiosities were of especial interest to the major"s little boy, Russell, who was never so contented as when his father told him stories about them—stories usually invented by the father, for he knew but few incidents connected with them. Nevertheless the yarns delighted the boy, who had all a boy's love for adventure, and when it was announced on the billboards that a wild west show was coming to town Russell Henderson was wild with expectation. His father promised to take him out to see the procession of cowboys, Indians and "plains" people generally enter the city and afterward to give him an opportunity to see the performance.

When the show made its formal entrance the major was standing on the sidewalk, his little boy holding his hand, the youngster's eyes big as saucers and watching eagerly for the Indians. At their entrance there was an element of surprise which neither father nor son had counted upon. An Indian suddenly threw himself from his horse, made a dash for the major and, extending his hand, said excitedly:

"How?"

Henderson stood looking blankly at the brave, who explained in a few words that he was the Ute whom the major years before had snatched from the burning. The Indian was so demonstrative, so delighted at meeting the man to whom he owed his life, that the major invited him when not engaged in his duties to come to his house. The invitation was accepted and the Ute, who was not in good health, remained after the show had departed. Little Russell was at first very much terrified at him, but when his fright wore off depended upon him for most of his amusement, the Indian telling him more wonderful stories about the decorations of the smoking room than the major had even dreamed.

Russell became much attached to the Indian, and the Indian, who worshipped the major, seemed eager to give the little fellow all possible pleasure not only from gratitude to the father, but affection for the son. Time slipped by, and the Ute, who was suffering from malaria, remained at the home of his benefactor.

One evening Major Henderson came in before dinner and, going into the smoking room, found the Ute bending over Russell, who was standing near a table on which rested an arrow. both the boy and the Indian were looking at the tip of one of Russell's fingers. On it was a red spot about which the flesh was slightly swollen. A terrible anxiety was depicted upon the Ute's features. As the major entered the Indian cast a glance at him, then at the arrow on the table, then back at the major.

"You saved me from a torture death. In return I have brought death to your idol. That arrow was poisoned; the child in handling it has pricked his finger. He will die."

This was what Major Henderson read in the Ute's face. Then suddenly, without a word, the Indian seized the boy's finger and, placing it between his lips, began to suck the wound, pulling so hard that the child cried out.

The poison was drawn from the wound and, entering the thin coating that lined the Ute's mouth, was quickly absorbed. A doctor was summoned and arrived in a few minutes. He administered a drug to the boy, then advanced to do the same to the Indian. His offer was refused. Indeed by this time, though Russell showed no signs of poisoning, the Ute was giving evidence that the deadly weapon of the savage had entered his system.

THE ORANGE SECRET.

It was told me by Maritza, a little Greek girl, in far-away Turkey; and I am going to tell it here and now to every one, because I never have found any American child who had discovered it.

I was finishing my breakfast one morning, when I heard a little sound at my elbow. It was Maritza, who had slipped off her shoes at the outer door, and come so softly through the open hall that I had not heard her.

After I had taken the parcel of sewing her mother had sent, I gave Maritza two oranges which were left in a dish on the table. One of them was big, and the other quite small.

"One orange is for you," I said, "and the other you may carry to Louka. Which one will I give him?"

Maritza waited a long while before answering. At any time she would have thought it very rude for a little child to answer promptly or in a voice loud enough to be easily heard; but this time she waited even longer than good manners required. She looked one orange over and then the ther. After a little more urging from me she whispered, "This one." It was the big one.

Curious to know of the struggle which had made her so long in deciding, I said, "But why don't you give Louka the small orange? He is a small boy."

Maritza dug her little stockinged toes into the carpet and twisted her apron hem before she answered.

"Is not Anna waiting for me at the gate?" she said. "Anna and I will eat my orange together. Mine has twelve pieces, and the other only eleven. Anna would not like to take six pieces if I had only five."

"You can not see through the orange skin, Maritza, to tell how many pieces there are. How is it you know?" I asked.

Then Maritza told me the orange secret, and this is it.

If you look at the stem-end of an orange, you will see that the scar where it pulled away from the stem is like a little wheel, with spokes going out from the center. If you count the spaces between these spokes, you will find that there are just as many of them as there will be sections in the orange when you open it; and so you can tell, as Maritza did, how many "pieces" your orange has.

Perhaps you think every orange has the same number, just as every apple has five cells which hold its seeds; but you will find it is not so. Why not? Well, I do not know. But, perhaps, away back in the history of the orange, when it is a flower, or perhaps when it is only a bud, something may happen which hurts some of the cells or makes some of them outgrow the rest. Then the number of cells is fixed; and, no matter how big and plump and juicy the orange becomes, it has no more sections than it had when it was a little green button, just beginning to be an orange.

The next time you eat an orange try to find out its secret before you open it.—Julia E. Twichell, in Little Folks.

THE COUNTRY FOR HEALTH AND HAPPINESS.

The Cultivator is the friend of the country home, the country boy and the country girl. Often has it said, that health and happiness abound no where so plentifully as in the country. Commenting on this fact, the Saturday Evening Post, a great family newspaper, over two hundred years old, under the title "Back to the Tall Grass," prints the following exceptionally strong editorial, relative to the tendency of city people to drift to the country:

The cities are growing more and more crowded every year as people are attracted to them from the country, and year by year men are learning better the truth, that it is in the country that one can live the sanest life.

Thus we can account for the remarkable exodus of city people to the country, and the tremendous influx of country people to the city.

It is easy to understand why this is so. The city holds out inducements to the country boy that his own environment will never yield him, and he comes to the metropolis, works at his business as few city boys can work, and in course of time he marries a girl who has also come in from the country to earn her liivng, and they settle down in a cozy flat when his means will allow him to do so, and is happy. His children have all the advantages of the city that were denied him when he was a small boy, and if they do not grow up to as lusty a manhood as his, if they do not amount to as much as he did, there are two reasons for it ;they have a rich father and he did not; they were born in the city. Now, it is an undeniable fact that few city men rise high in the council of the nation. If a great man is wise he is born in the country.

Yes, it is easy to understand why there has been such an exodus to the country. The city boy, born and brought up in a brick-walled dwelling, getting a smell of the life-giving country air only during an all too short vacation, envies his country cousin who can breathe ozone all the year round and who has all outdoors for his playground, and he determines to go to the country to live if ever it becomes possible. To be sure he is only a clerk and promotion is likely to stop when he has reached a certain point, but perhaps he can get an ideal little house not too far from the city and lead there an ideal life—and perhaps an ideal girl.

By and by, sons and daughters are born and when the boys reach the state of man they leave the old home and go to the city with the riger of splendid manhood and ideas of country honesty. The end of the matter is the country boy with his strength of character and his vigor of body proceeds in busines to take the best things that are from under the eyes of the city bred children whose country bred father won the prizes of his generation before, and so the city and the country are changing inhabitants all the time and who shall say that it is not for the best?

But he is wisest who, having fled from the city as soon as he was able, keeps his children in the country, there to live and grow. If every one lived in the country, the city would be a very good place in which to live because there would be plenty of room. Pending that time it were better for all city people to live in the country, for there is always lots of room there.

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RECIPES

Eat Little, but Have That Little Good

CHEESE PIES.

Two eggs; butter size of a walnut, creamed together; soft, white sugar, to make a medium batter, and grated nutmeg to flavor. Line small patty tins with rich pie crust; put in a scant tablespoon of the mixture, and bake in a moderately hot oven till done. When made just right, the filling should be of the consistancy of good, thick cream, when baked. They are most delicious. Be careful to press smoothly in tins or they will blister. A little experience will be all that is needed in making these pies.

FINE COOKIES.

Two cups of sugar; one cup shortening—butter preferred; three eggs; two cups seeded or seedless raisins, one teaspoon cinnamon; one teaspoon cloves; one-half nutmeg (grated); three tablespoons sweet milk; if cookies are desired very rich, the quantity may be doubled, and cookies still be excellent. Dissolve one teaspoon soda in the milk, and use flour to make a dough that will be soft, but not sticky.

GINGERBREAD EXCELLENT.

One cup sugar; one cup molasses; one teaspoon ginger; one teaspoon cinnamon; beat well; five cups sifted flour; one cup sour milk; mix well; beat four eggs light and stir in; dissolve two teaspoons soda in a little hot water, and add last. If spring wheat flour is used, scant measure a little.

HEALTHFUL DIET.

Professor Kiosoto, an eminent Japanese bacteriologist, also Professor Koch and others have shown that the acids of lemons, apples and other fruits, citric acid and malic acid, are capable of destroying all kinds of disease germs. Cholera germs are killed in fifteen minutes by lemon juice or apple juice, and typhoid fever germs are killed in half an hour by these acids, even when considerably diluted.

If you squeeze a lemon in a glass of water containing cholera germs, and let it stand fifteen or twenty minutes, you may drink the water with impunity, as the germs will be dead. These juices will kill other disease germs, Instead of telling a man to have his stomach washed out, we can now tell him to drink fruit juice, which will cleanse the stomach as well as a stomach-tube, provided it is not a case of gastric catarrh.

In ordinary cases of biliousness, foul tongue, bad breath, sich headache and nervous headache, a fruit diet is a wonderful purifier. The fruit diet will cleanse the stomach and the alimentary canal and drive off disease germs, which are responsible for a large share of our ailments.

THE WOMAN AND HER HAT.

No woman who has held in her lap a hat during an entire performance at a theater will fail to appreciate the little contrivances that are being introduced in the New York theaters for the holding of hats. Small V-shaped pieces of metal, with a hole in them through which a hat pin will pass, are fastened to the backs of the seats, coming directly in front of occupants of the seats back. They are calculated for hanging hats on. By passing a hat pin through some convenient part of milady's headgear, and then continuing the hat pin through the metal arrangement, the hat is comfortably and safely disposed of for the evening, except when the man in the next seat squeezes himself past when going out between acts. At such times it behooves the owner of the hat to grab it from its moorings before the man reaches it.

There is nothing more repulsive to the senses than a snappish, cross, young girl—unless it be a vulgar, outlandish boy. Young girls should be full of sunshine if they expext to be admired. Boys should be manly and polite if they would be liked.

HELPFUL HINTS.

Simplify the work, first, by bringing each family member into a rightful share therein. The family where the children "help" is the exception rather than the rule. Boys and girls can make their own beds and keep their rooms in order; can be taught to put their own things away, and taught to work in a way that will make it delightful. Most children want to do what mother or father does, but are put aside until, when they are old enough to help they do not wish to. Always encourage every effort at helpfulness.

A cream separator saves a great deal in handling milk. Some think washing machines are work savers, while others who cannot run a machine can wash by the old way. It saves work to fold the clothes from the line. Many pieces if thus folded will be almost as smooth as though ironed. Some do not even iron every-day dresses and apron. I think starching and ironing keeps them clean much longer, but there is a difference of opinion.

When baking bread, utilize the top o fthe stove for other things. In kneading bread, if the dough is chopped occasionally with a chopping knife it facilitates the process to a great extent. Linoleum on a kitchen floor is a great work saver, but paint is not to be despised. The work is lessened half in cleaning a floor by even having it even well painted. Enamel the sides of the cook stove occasionally and wash the top or rub clean with paper. This saves the daily blacking. I have seen woodwork painted dark red and varnished, and it saves a great deal of labor in cleaning, besides it always looks nice. Kitchen chairs treated the same way can be simply wiped off and the weekly scrubbing be done away with.

If flies get into the parlor, don't worry but set a dish of poison fly paper in there and shut the door. It is much easier than driving them out, and you will not get gray fretting.

Short skirts for wearing to do housework save a good deal of washing, and if made of dark material, will also be labor savers in that way. Shirt waists or tea jackets are easily done and with a dark shirt one can be fresh and neat all the time nearly. Painted floors for bedrooms are clean and easily taken care of. Saves heavy sweeping, and also the sewing of carpet rags, or lifting heavy carpet at cleaning time. White bedspreads are labor savers, as they are much easier washed than bed quilts. Some turn a white spread back down in day time. This is false economy in work and expense as well. A cheap bed spread costs about as little as anything, and is easy to wash. Hence I advocate the white cover for every bed in the house.

Put away all the useless frippery in the rooms. They will look neater and be much less work to dust and care for. A cabinet for shells, curios, etc., is a great work saver, as the things can be kept in it and not need moving every time the room is cleansed. Time can be saved by avoiding trashy reading and devoting it to that better. Nothing helps the work along like a serene mind, and the Bible is a great panacea for all unrest. Lillian Whiting's first and second volumes of "The World of Beautiful" simplify and enlarge life greatly. The third volume I cannot recommend wholly. Kerosene saves work in washing windows, mirrors, etc. It is a great cleanser. Iron bedsteads are clean and easily cared for, while mattresses save much work over the oldtime feather bed and husk tick. These latter produce a great deal of dust and fluff, System is a good thing, but a cast iron rule breaks many things if not itself broken. Taking thought in all things saves countless steps. Hardly one woman in ten knows how or uses the appliances on her sewing machine. Learn how; this saves time. Bags for bundles save time. Keep those pieces like things in wear in a handy bag, and you will not have to spend fifteen minutes hunting up a patch. Kitchen cabinets are work simplifiers.—R. S. M., in Indiana Farmer.

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908 N. MAIN ST. LOS ANGELES, CAL.

TO LEASE

320 Acres Land Near Coachella

Sixty acres under water with fine pumping plant. House, cow, chickens, 5 horses, buggy, farming implements, new and improved.

IN THE EARLY MELON AND VEGETABLE BELT

Will lease on exceptionally good terms to right man.

B. F. Boone, 257 So. Figueroa, Los Angeles

SOUTHERN PACIFIC

CHOICE OF 3 ROUTES

EAST AND WEST

"SUNSET" Via El Paso and New Orleans
"OGDEN" Via San Francisco and Portland
"SHASTA"

The service on these trains is perfect. The time is the fastest. The scenery most beautiful. The tourist car service appeals most directly to those who desire to travel at a high rate of speed, but prefer to economize a little on sleeping car accommodations The Southern Pacific runs personally conducted tourist excursions every day in the week at reduced rates to various points in the east, without change, via all routes. A conductor accompanies the train to destination, and is ever ready to attend to the wants of the traveler.

SOUTHERN PACIFIC
261 SOUTH SPRING ST.

Tree Spray Distillate

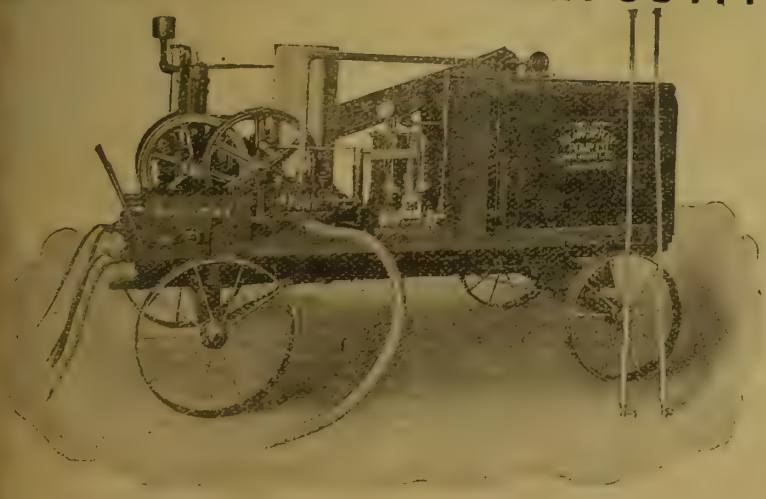
Not an emulsion of oil and caustic soda, but a special distillation of oil from which all asalt and other deleterious substances have been removed. Mix with water and apply with raying apparatus that gives a thorough and constant agitation to the liquid—when properly ne we guarantee that it will destroy all insect life attacking either citrus or deciduous fruit ees and not

Spot Fruit or Hurt Tree

heapest and Best Insecticide. We also manufacture Gas Engine and Stove istillate, Lubricating Oils, Etc. We solicit your correspondence and orders.

SOUTHERN REFINING CO.
P. O. Box 9, Station C. Los Angeles, Cal

WALNUTS BLIGHT-BEAN OUTFIT



Our new power outfit circular tells how our outfit is *ESPECIALLY ADAPTED* for use with *BORDEAUX* on *WALNUTS.* Send for a copy. Questions gladly answered. *BUY THE BEAN.*

BEAN SPRAY PUMP CO., Santa Clara St., San Jose

Los Angeles Markets.

Los Angeles, Dec. 3, 1903.

The holiday past, poultry now comes into market in ample quantities from first hands.

Butter and eggs continue firm and ranch eggs are scarce. No decline in price is anticipated for some time to come.

Highland potatoes are now laid down at $1.10 per hundred, although the trade realizes $1.15@1.25. All grades of potatoes are firm.

Cranberries are coming in very freely and sell at $10.50@11.50 according to quality, per bushel, in unbarreled lots.

No special change marked the bean quotations for the week.

Sugar has declined 20 cents a hundred on all grades.

Oysters will shortly be received in new packed lots as advices from New York say a large quantity has been shipped to coast points. The pack is firm.

Butter.

B. of T. Creamery, 2lb roll		65
So. California, dairy do	60	62½
Cooking	45	30
Cold Storage	50	55

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	16	17
Swiss	13	
Imported	28	

Eggs.

Fresh Ranch	38	.40
Fresh Eastern	34	.36
Store, case count	30	.33

Potatoes.

River, per cwt		-1.25
Salinas, do	1.70	1.60
Local, do	1.00	1.25
Sweet potatoes	1.50	1.75

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

NUTS.

Almonds, paper shell		14
Almonds, soft shell	10	12
Walnuts, soft shell	14	14½
Walnuts, hard shells	13½	14
Peanuts, eastern	6	7
Peanuts, California	5	6

Vegetables; Mixed.

Onions, yellow, per cwt		1.60
Beets, per 100 lbs		.90
Cabbage, per 100 lbs		1.00
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chilies, green, per lb		.04
Cauliflower	40	.50
Celery, per doz.	40	.50
Green Peas	3	.04
String Beans		.03
Lettuce, per sack	25	
Tomatoes, 30 lb box	40	.50
Black figs, 20 lb box		1.00

Fruits; Fresh.

Strawberries, box, fancy	08	.10
Pears Winter Nellas		1.50
Limes, per 100	90	1.25
Navel Oranges per box	1.50	2.50
Northern apples, 40 lbs	75	1.25
Four tier Belleflower		1.50
Four half-tier Belleflower		1.00
Guavas	04	.05

Fruits; Dried.

Apricots	05	.08
Pears	07	.08

Poultry.

Spring Chickens, per lb	17	.20
Hens, No. 1, per lb	14	14½
Ducks, per pound	13	14
Turkeys, per lb.	20	.22
Turkeys, cold storage	22	.23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Hay and Grain.

Wheat Hay	11.00	13.00
Barley Hay	11.00	13.00
Alfalfa	11.00	13.00
Corn	1.18	1.25
Barley		1.05
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.20
Bran		1.20
Feed Corn Meal		1.40
Middlings		1.45
Cracked Corn		1.55
Oil Cake Meal	1.65	1.75
Chicken Wheat	1.50	1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

SAN FRANCISCO, Dec. 2, 1903.

The demand for medium and under grade butter has been sluggish this week and the market has been in an unsatisfactory condition, despite the inducements offered by sellers. As compared with last week the market shows a decline.

BUTTER—Per lb:

Creamery, extras	30	
Creamry, good to fancy	25	@29
Dairy extras	23	@24
Dairy choice	21	@22
Store	18	@20
California storage	24	@27
Eastern Creamery	23	@25

Cheese remains the same as last week.

Eggs and Poultry.

Prices for Ranch Eggs eased off slightly under a less brisk demand and larger offerings. Supplies were well cared for at the revised figures and the market ruled steady, with the best grades of Ranch easily bringing the outside price. Storage Eggs were in good demand, and the ruling rates were firmly held.

EGGS—Per doz:

Ranch, selected large	52½	@53
Ranch, good to choice	45	@50
Store	Nominal	
California storage	28	@32½
Eastern	25	@30

Late offerings of poultry are all cleaned up. Turkeys are offered in fair lots and bring good prices at active sale.

Fruits and Vegetables.

Good quality of fruits brought firm prices this week. Apples lead in demand, and the better qualities find ready sale. The following are the quotations:

California Apples—Extra, $1.45@1.65.
Pomegranates—Per box, $1.50@2.00.
Persimmons—Per box, 65c@$1.00.
Quinces—Per box, 60c@$1.00.
Table Grapes—Per small box, 40@65c; crate, 65@90c; large box, nominal.

BERRIES—Per chest; Strawberries, Longworth, $12; large varieties, —, as to quality; Raspberries, $6; Cranberries, per bbl, Eastern, $11@12; Oregon, per box, $2.50@$3.50.

CITRUS FRUITS—Per box: Oranges, new crop Navels, $2.75@$3.25; Seedlings, $1.75@$2; Late Valencias, $3.50@$5; Lemons, $1@$3; extra, $3.50; Grape Fruit, $1.50@$3; Tangerines, per box, $1.25@$1.50; Limes, $4@$5.

All the better varieties of vegetables found a ready market in the buyers for local and country trade.

CITRUS FRUITS—Per box: Oranges, new crop Navels, $2@3; Seedlings, $1.50@2; Late Valencias, nominal; Lemons, $1@2.50; extra, $3; Grape Fruit, $1.50@3.50; Tangerines, $1@1.75; Japanese Mandarins, $1.50@1.75; Limes, $4@4.50.

No important features are noted in the vegetable market, prices continue steady as quoted. Arrivals from the South have been light this week and the offerings inferior in quality.

The quoted rates for Peas, Beans and Summer Squash were for the best, while larger lines of off stock were disposed of below the minimum figure, and much were entirely ignored. Tomatoes were very weak, and prices strongly favored the buying interests.

VEGETABLES—Tomatoes, per box, 50c@$1: do, southern, per crate, 50@85c; Green Peppers, box, 40@75c; String Beans, per lb, 4@6c; Wax, 4@6c; Los Angeles Green Peas, per lb, 2@4c; Egg Plant, per box, 50@75c; southern Summer Squash, per box, 50@65c; Cucumbers, per box, 75c@$1; Mushrooms, per lb., 12½@25c; Garlic, per lb., 6@8c; Dry Okra, per lb., 12½c; Marrowfat Squash, per ton, $10@15; Hubbard, $12.50@20.

ONIONS—Yellow, per ctl., 90@$1.25.

Dried Fruits, Nuts, Etc.

Spot trading in all lines of Dried Fruits is very slow and confined principally to small jobbing wants from local consuming channels.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 4½@6c; Sun Dried, 3¼@4c.

Apricots—Royal, fancy, 9@10c, choice, 7½c @8½c; Moorparks, choice, 9½@12c.

Peaches—Choice, 5¼@6c; fancy, 6½@7c; peeled, in bxs, 11@14c.
Pears—Choice, 7½@8½c; fancy, 9c.
Plums—Pitted, 6¾9c; unpitted, 1@1½c.
Prunes—Four sizes, 60s to 100s, 2¾@3c for Santa Clara; other sections, ¼@½c less.
Nectarines—White, 4@5½c.
RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1903 crop, f. o. b. at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.35; Two-Crown London Layers, $1.25; Muscatels, Four-Crown Standard, loose, 6½c per lb; do, Three-Crown, 5⅝c; do, Two-Crown, 5¼c; Seedless Muscatels, 4¼c; Seedless Muscatels, floated, 4½c; Seedless Standard Sultanas, 4¼c; Thompson Seedless, Standard Sultanas, lencias, Standards, 4¼c; do, Pacifics, 3¾c; Orientals, 2¾c; Malagas, Three-Crown, 5⅝c; do, Two-Crown, 5c.
Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz, per lb, 8c; choice, 7⅝c; fancy, 12 oz, per pkg, 6⅝c.
NUTS—Per lb: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Peanuts, Eastern, 6@6½c; California, Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shell, No. 1, 12@13c; do, No. 2, 10@11c.
HONEY—New Comb, per lb, White, 12@14c; Amber, 10@12c; Extracted Water White, 5½c@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

Beans.

Market fluctuations, generally in the line of improved values, were noted in prices for most descriptions of Beans this week and operators reported a moderately active market at the revised figures.
BEANS—Prices per ctl: Large White, $2.35@2.65; small, do, $2.90@3.10; Pea, $3@3.10; Lima, $3; Red, $3@3.15; Pink, $2.40@2.65; Bayo, $2.15@2.25; Blackeyes, $2@2.25; Red Kidneys, $4.25@4.50.
DRIED PEAS—Green, $2.50; Niles, $2.75.

Live Stock.

CATTLE—No. 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6½@7c; No. 1 Cows and Heifers, 6½c; second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.
CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.
SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.
LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.
HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5⅝@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

FRESH MEAT.

BEEF—Per lb: No. 1 Steers, 7@7¼c; do, second quality, 6½@6¾c; No. 1 heavy, 7@7¼c; thin, 5@5½c; No. 1 Cows and Heifers, 5½@6c; second quality, 5½@6c; thin, 3½@4½c
VEAL—Per lb: Heavy, 7@7½c; medium, 7½@8c; light, 8½@9½c; poor Calves, 6@7c.
MUTTON—Per lb: Light Wethers, 8@8½c; do, Ewes, 7½@8c; heavy Wethers, 7½@8c; Ewes, 6½@7c.
SPRING LAMBS—Per lb, 8½@9½c.
DRESSED HOGS—Per lb, 8@8½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13.50@17; Wheat and Oat, $13@16; Oat, $11.50 @$14.50; Barley, $10@13; Clover, $9.50@11.50; Alfalfa, $$9.50@12; Stock, $8.50@10.50.
STRAW—Good to choice, per bale, 55@65c.
FEED CORN MEAL—Choice grades, per ton, $30@31.
GROUND BARLEY—Per ton, $24@25.
MIDDLINGS—Per ton, $26.50@29.
BRAN—Per ton, $22@23.
CRACKED CORN—Choice quality, per ton, $30.50@31.50.
OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.
BRAN—Per ton, $21@22.
FEED CORN MEAL—Choice grades, per ton, $29.50@30.50.
BRAN—Per ton, $19.50@20.
COCOANUT CAKE—In lots of ten tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.
WHEAT—No. 1 shipping, per ctl., $1.38½@1.40½; White Milling, good to choice, $1.38¾ @1.50.
BARLEY—Choice No. 1 Feed, $1.10@1.13¾; off grades, $1.07½@1.08¾; Brewing, No. 1, $1.16¼@1.21¼; Chevalier, $1.30@1.45.
RYE—Good to choice, per ctl., $1.25@1.30.
CORN—Good to choice, per ctl: California, new, large Yellow, $1.22½@1.30; small, do, nominal; White, $1.25@1.30.
CRACKED CORN—Choice quality, per ton, $30@31.
OATS—Good to choice White, $1.25¾@1.35;

Hops.

The price for new crop is 19@22c per lb, according to quality.

WOOL.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, Dec. 2.

The wheat market assumed a firmer status today, owing to the liberal purchase by leading long. Toward the close of the day a reaction took place which caused a decline of May Wheat to 80¼c.

Cash quotations were as follows: Flour was quiet, but firm; No. 2 spring wheat, 80@84; No. 3, 75@81; No. 2 red, 84@85⅞; No. 2 corn, 42½; No. 2 yellow, 44½; No. 2 oats, 35½; No. 3 white 35@38; No. 2 rye, 51; good feeding barley, 34@35; fair to choice malting, 41@54; No. 1 flaxseed, 91; No. 1 northwestern, 97½; prime timothy seed, 2.80; mess pork, per bbl., 11.12½@11.25; lard, per 100 lbs., 6.50@6.52½; short ribs, sides (loose,) 6.25@6.62½; short clear sides, (boxed,) 6.12½@6.25; clover, contract grade, 11.00.

Grain Movements.

Articles	Receipts.	Shipments.
Flour, barrels	58,200	19,500
Wheat, bushels	212,600	169,100
Corn, bushels	208,200	115,300
Oats, bushels	357,400	248,200
Rye, bushels	9,100	3,000
Barley, bushels	205,200	20,000

CHICAGO, Dec. 2—Cattle—Receipts, 2500; slow; good to prime steers, 5.25@5.75; poor to medium, 3.50@4.90; stockers and feeders, 2.00@4.10; cows, 1.50@4.00; heifers, 2.00@4.75; canners, 1.50@2.40; bulls, 2.00@4.30; calves, 2.50@6.50; Texas fed steers, 3.00@4.00; western steers, 3.00@4.50. Hogs—Receipts, today, 45,000; tomorrow, 35,000; steady; mixed and butchers, 4.25@4.60; good to choice heavy, 4.45@4.60; rough heavy, 4.25@4.40; bulk of sales, 4.35@4.45. Sheep—Receipts, 25,000; sheep and lambs steady; good to choice wethers, 3.75@4.25; fair to choice mixed, 3.00@3.75; western sheep, 3.00@4.50; native lambs, 3.50 @5.80; western lambs, $3.80@4.65.

DAIRY MARKET.

On the Produce Exchange today the butter market was firm; creamery, 16@25; dairy, 14@21; eggs, easy, 23@25; cheese, steady, 10@10½.

California Dried Fruits.

NEW YORK, Dec. 2.—The market for evaporated apples is still quiet, with the tendency in buyers' favor; common, 4@5; prime, 5¼@5½; choice, 5¾@6½; fancy, 7. Prunes remain quiet, at 2½@6½ for all grades. Apricots are in fair demand, but present no feature of moment, ruling steady; choice, 9@9½; extra choice, 9¾@10½; fancy, 11@1… Peaches continue dull; choice, 7¼@7¼; extra choice, 7⅝@⅛; fancy 9½@10¼.

CITRUS MARKETS

THE ORANGE MARKET.

The markets in general are opening up with rather low prices, and considerable hesitancy on the part of the trade in purchasing stock. The auctions and general Eastern markets are selling Floridas at about $2.00 per box delivered, with plentiful supplies at this price.

The first cars of Californias, large size Fancy Navels, rather poor color, have sold in the auctions at about $2.35.

Western markets are not disposed to buy freely of arrivals at the present time, preferring to wait until a little nearer Christmas.

The situation on the whole is not particularly bright, and every indication points to lower prices for holiday oranges than California has ever had.

Floridas are reported to be showing considerable decay, which would indicate the necessity of their cleaning up the crop earlier than last year.

Shipments from the southern section of the state are rather light this week, but must be heavy next week, as cars shipped later than the 12th will not arrive in markets in time for the Christmas trade. Shipments from Northern California will be practically finished by the 10th. Some sections finishing this week. Sizes have been very large from this section, and lists of southern shipments show a very heavy proportion running to the smaller sizes.

There is a very light demand, especially for the off small sizes, in the holiday trade, and these should be left on the trees and allowed to grow larger.

THE LEMON MARKET.

LEMON MARKET: The prices on foreign lemons sold in New York during the past week have shown a heavy decline, which is also the case with a few cars of Californias sold in the same market. Western markets, especially some of the central sections that can buy either foreign or Californias, are feeling the decline in auction markets, and prices are easier in consequence, to the extent of some 50 to 75 cents per box.

There is no demand for standard fruit.

Total shipments to date this season, 280 cars, of which 179 cars are lemons. Total to same date last season, 348 cars, of which 217 were lemons.

The highest price paid for a carload of lemons was paid this week for a car of Azusa lemons, which were of the finest quality, bright, juicy and silky in appearance. The car netted over $1500.

AUCTIONS.

New York, Nov. 24.

Semi-Tropic Fruit Ex., XXX lemons, $3.50. E. E. E. lemons, $2.80.

Cleveland, Nov. 24.

Semi-Tropic Frut Ex., Whittier lemons, $3.75; Pico, $3.30.

Pittsburg, Nov. 27.

C. C. U., Pacific Beach, Sardonyx lemons, $2.20. Sunrise, $2.15.

Cleveland, Nov. 27.

A. H. Frt. Co., Squirrel lemons, $3.85. Palm Tree, $2.75.

New York, Nov. 30.

C. C. U., Exeter, Mariposa navels, $2.35.

Boston, Nov. 30.

O. H. Frt. Ex., Bear lemons, $4.35. Quail, $3.75.

Pittsburg, Nov. 30.

Q C. Fruit Ex., Corona Beauty lemons, $2.70. Grove, $2.10.

New York, Dec. 1,

C. C. U., Exeter, Mariposa navels, $2.30.

Possibly that bull of yours would be just as serviceable with his horns off and a ring in his nose. He'd be a great deal more tractable, at any rate.

We have a friend who set a hen on ten eggs and she hatched out six. Of these, two died. At the same time he set the hen he put twenty eggs in the incubator and hatched out nineteen, every one of which lived. Now he will not have a hen set. Says it does not pay.

ONIONS FOR NAMES

I have mixed a lot of onions; one kind is early, white and flat, now matured. Can you name them and are they the earliest onion to mature?
"B." Lamanda.

Your onion seems to be the Queen, and if so, is the earliest of all.

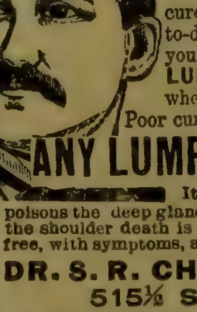
POMONA DEEP WELL PUMP
Long stroke, steady movement, runs smoothly, perfectly noiseless.
POMONA MFG. CO., POMONA
or Fairbanks, Morse & Co., Los Angeles

SUMMONS.

No. 42415. Dept. No. 5.

In the Superior Court of the State of California, in and for the county of Los Angeles.
Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.
Action brought in the Superior Court of the State of California, in and for the county of Los Angeles, and the complaint filed in said county of Los Angeles, in the office of the clerk of said Superior Court.
The People of the State of California send greeting to:
Mollie Estill, defendant.
You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the county of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.
And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the Court for any other relief demanded in the complaint.
Given under my hand and the seal of the Superior Court of the county of Los Angeles, State of California, this 19th day of Sept., A. D. 1903.
(Seal) C. G. KEYES, Clerk.
By C. O. Winters, Deputy Clerk.

More Indians
Than You
Ever Imagined
Classified, entertainingly described in "Indians of the Southwest."
BOOK STORES
FIFTY CENTS
Or Jno. J. Byrne, Los Angeles, Cal.

I WILL GIVE $1000
IF I FAIL TO CURE ANY CANCER OR TUMOR
I treat before it Poisons Deep Glands or Attaches to Bone.
NO KNIFE OR PAIN, NO PAY UNTIL CURED.
No Swindling X-Ray or Home Treatment.


A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. 3000 CANCERS cured on people you can see and talk with. ANY TUMOR, LUMP OR SORE on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small.
ANY LUMP IN A WOMAN'S BREAST IS CANCER
It does not pain until almost past cure, and if neglected it ALWAYS poisons the deep glands in armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. BE SURE TO GET OUR 120-PAGE BOOK, sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.
DR. S. R. CHAMLEY & CO., ["Strictly Reliable." Two Lady Assistants.]
515½ S. MAIN STREET, LOS ANGELES, CAL.
PLEASE SEND THIS TO SOME ONE WITH CANCER.

EGGS

Now is the season of the year that eggs are worth having to sell and the more we have to sell the better we like it; therefore, if we are in the poultry business, we want to feed the hens the kind of feed that will make them lay. It is worth something to know just what is good to make hens lay, but there is such a feed and one can buy it already mixed to feed, and it doesn't cost any more than any other feed in the end, because it is richer and goes farther. The Balanced Ration Egg Food, prepared by the A. R. Coulson Company of Petaluma, is what the Petaluma poultrymen use to make their hens lay. Not only Petaluma poultrymen, but poultry raisers all over the state of California are beginning to find that it is more profitable to feed Coulson's Balanced Ration Egg Food than any other kind of feed.

A. R. Coulson, the chicken doctor of Petaluma, has made a special study of the feeding problem and he has got it down to a science, and so successful has been the use of this food that $25,000 was invested by the company to manufacture this feed and sell it as cheap as possible. All the ingredients are purchased in carload and even shipload lots, as steamers and schooners come daily to Petaluma loaded with

grain and feed. By purchasing everything in immense quantities they are able to use the best of everything needed in the feed and still be able to sell it to the poultrymen at reasonable prices. The granulated or fine ground dried beef blood is prepared at the largest packing houses in the world, at Kansas City, and shipped to the A. R. Coulson Company, in 25 and 30 ton lots (the value of a big carload of this article is nearly $2000.) Fine ground beef meal and beef scraps are also shipped from the packing houses at Omaha and Chicago.

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It is a good thing for the poultrymen to get this feed already mixed in this way, for you only have one profit to pay, where if the poultryman was to purchase each article separately he would have to pay a profit on each article used, and the more expensive articles he could not afford to use, as on small quantities of some articles would cost the poultryman if he purchased it a few pounds at a time, 10c or 12c a pound, so that he could not afford to use it; but where it is purchased in 30,000 or 40,000 pounds at a time the same article can be had for 2 or 3 cents a pound; therefore it is much cheaper to buy Coulson's Egg Food already mixed and save time, labor and expense. Besides, when you get Coulson's Egg Food you can rest assured that it is prepared just right and contains everything in the right proportions, and is more thoroughly mixed, being mixed in a machine that mixes every portion together so thoroughly that every part is just alike, after it comes out of the machine. If you want to get eggs you must feed that which makes eggs. A hen is simply a machine; feed her properly and feed enough of the right kind of feed and you are bound to get eggs.

In order to get eggs out of a hen we must put eggs into a hen, or in other words, we must feed right, and Coulson's Egg Food is just the feed that Biddy needs to help her make the eggs.

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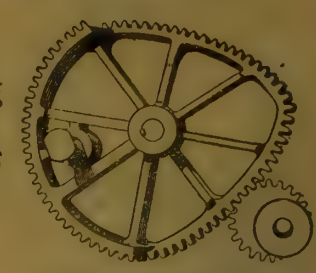
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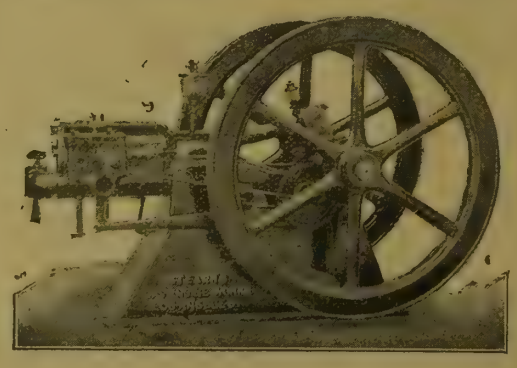

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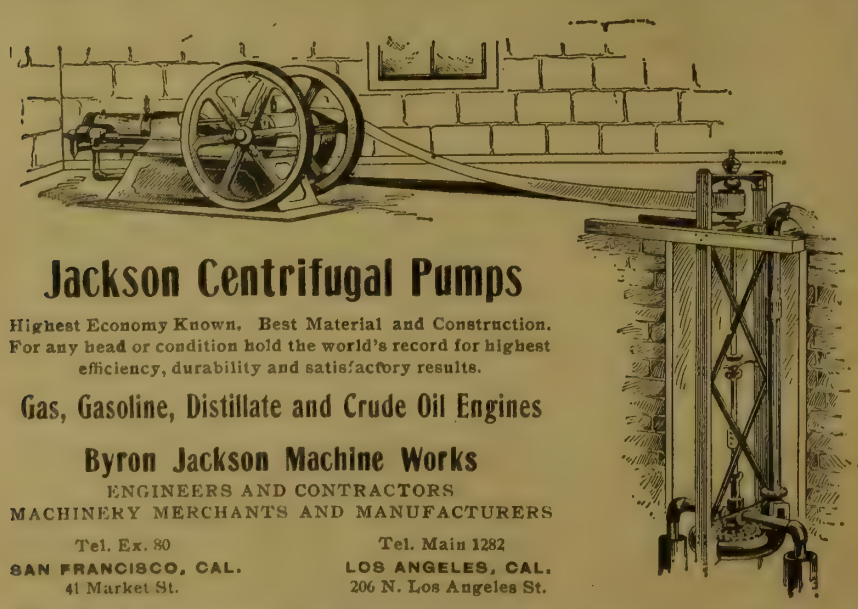

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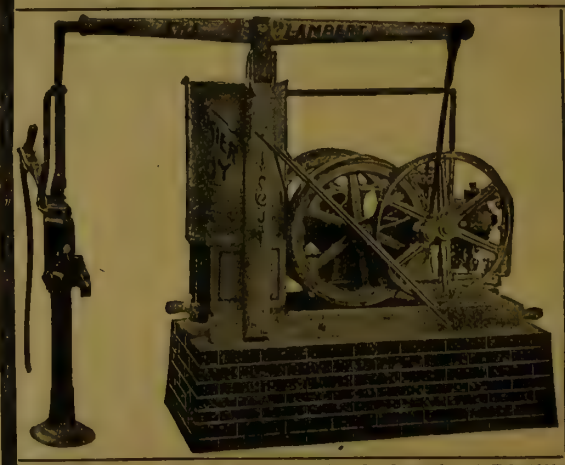

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DECEMBER 11, 1903

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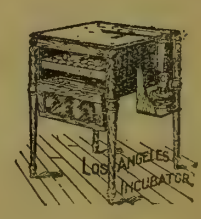

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 24 LOS ANGELES, CAL., FRIDAY, DECEMBER 11, 1903 Subscription $1 a Year

The State Fruit Growers' Convention

Fresno, Dec. 8.—From Shasta to Orange county fruit growers have come to join in the work of the State convention. There are some new faces, but the attendants are much the same as in the past and are, as usual, largely from outside the city in which the convention is held.

The large hall in only partially filled but the interest has been most marked. Decorations of potted plants and flowers are profusely made, also a bank of oranges—Fresno grown—are arranged in front of the speaker' stand. It is nice looking fruit, as is a display of persimmons.

About the room are arranged tables with exhibits of dried fruits by Fresno Home Packing Co.; apples, also large finely colored strawberries, from Watsonville, and a display of figs, olive oil and nursery trees by Geo. C. Roeding, of the Francher Creek Nursery, Some of these figs are of last year's pack and, after this severe test, are delicious and attracting much attention.

President Cooper, State Commissioner of Horticulture, called the convention to order soon after ten o'clock and Rev. Thomas Boyd of Fresno offered an eloquent prayer.

Mayor L. O. Stephens extended welcome, turned over the keys to the city and hoped for the association a valuable session—as he knew it would be valuable to the growers about Fresno. Fresno has much to show to visiting fruit growers in its irrigating systems of a magnitude seldom equaled, in its vast extent of vineyard, in its schools, its Chamber of Commerce and its great prosperity.

The first act of the association was the election of vice presidents, H. P. Stabler, A. M. Drew and W. R. McIntosh being named.

John Isaac, secretary to the state horticultural commissioner, was named as secretary.

President Cooper's annual address reviewed the condition of the fruit industry of the past year, also reviewed the work of the commission. The results accomplished in the control of injurious insects was commended but the spread of fungoid diseases presents most discouraging phases. Especial reference was made to walnut blight, pear blight, vine diseases, etc. The most hopeful feature of the year has been the large yield and good prices of decidious fruits. The present fight and boycott of the commission men and retailers of San Francisco on organized fruit growers was referred to at some length. This combine has made a bitter fight against free market and the selling of products of the soil in San Francisco, save through the combination. The state harbor commissioners and the press and people of the city here united to oust the combine. The pure food law was referred to and its more rigid enforcement was demanded.

This report was referred to John Markley, Geyserville, Geo. L. Hunt, Sacramento; Edward Berwick, Pacific Grove; A. N. Judd, Watersonville and W. R. McIntosh of Fresno as a committee on the message.

Hon. John Tuohy of Tulare spoke on the farmer as a taxpayer, and made a strong showing of the injustice to which the owner of real estate and especially the farmer has to submit to, in carrying by far the greatest proportion of the burden of government support. Not only is the farm held for nearly its full value, but the most minute report of all stock and appliances is demanded. From an assessor's list sheet he read to show that the merchant is assessed for a certain amount of merchandise and fixtures; a saloon keeper for saloon and fixtures, etc; while the farmer must certify to number of wagons, number of buggies, number of harnesses, cultivators, plows, mowers, colts one year old, colts two years old, colts three years old, American horses, mules, etc—going into most minute detail of every feature on the farm.

How to accomplish a reform, Mr. Tuohy had no remedy to offer, but recommended the appointment of a committee to investigate and report at some later session.

The committee afterwards appointed consists of Hon. John Tuohy, John S. Dore, Hon. A. M. Drew, S. P. Saunders and Frank E. Kellogg.

Chairman Cooper afterwards appointed a committee on resolutions as follows: John Markley, Mrs. Dr. Sherman, Mrs. B. F. Walton, Prof. A. J. Cook, and Frank E. Kellogg.

"What the Post Office should do for the Fruit Growers" was the first address of the afternoon. It was by Edward Berwick of Pacific Grove. Mr. Berwick is president of the California Postal League. He spoke of the membership of the league and the necessity of supporting it with means and with interest. Mr. Berwick made comparison of this country with Germany, England and other nations in the matter of postal systems and the comparison was certainly in favor of the foreign countries.

The Pope bill now before congress calls for delivery of parcels, anywhere in this country, of one pound of merchandise for three cents, and eleven pounds for 25 cents.

A resolution of thanks was tendered Mr. Berwick for his labors in behalf of postal reform.

A committee on transportation appointed at the San Francisco convention last year consisting of Rus D. Stephens, chairman, Alden Anderson, A. H. Naftzger, A. N. Judd, Alex. Gordon, reported; though the report was signed only by the first named and the last two. The report dealt at length with abuses of transportation especially in the excessive charges of refrigeration and in long time of transit for perishable fruits. Chairman Stephens appealed for pressure to be brought to bear upon the railroads that a contract should not be made with car lines at the expiration of the present contract two years hence. The enormous profits of this combination has been partially shown in the Porter Brothers investigation now being held wherein one man secured rebates exceeding a million and a half. The resolution was adopted.

Mr. Sprague for the committee on local association reported as follows:

"Efforts have been made to secure such organizations at several points most interested in securing fair market conditions there, but up to the present time none have been found with enough local initiative to secure such organizations except upon the Sacramento river. This association has successfully conducted the large business of the Growers' Co-operative Agency during the past season in San Francisco and urgently invites every locality interested in that market to form a local association to become a branch of the Growers' Co-operative Agency, thus joining them in the conduct of its affairs.

Your committee is convinced that abuses of no kind can be very effectively remedied without the concerted action of those who suffer from these abuses, and such concerted action is best secured by local organization of growers. They therefore recommend the continuance of the effort to secure such organization."

The first paper of the evening was written by Hon. Alden Anderson, Lieut. Governor of the state, and in his absence was read by the secretary, John Isaac. It was a report of operations of the Distributors, and showed a summary as follows: The fruit was distributed in 131 cities which had California fruits in carload lots. Grapes were shipped in much larger quantity than ever before. The total shipments were as follows: Cherries, 211 cars; apricots, 231 cars; peaches, 1867 cars; plums and prunes, 1145 cars; pears, 1719 cars; apples, 670 cars; figs, quinces, nectarines, etc., 23 cars; grapes, 1802 cars.

The prices on the whole were satisfactory.

M. Theo. Kearney, of Fresno, read a paper on co-operation in marketing cured fruits, from which we quote in part:

"We are holding our meeting in the town and county of Fresno. Fresno has been my home and the field of my labor for thirty years, and it would be most agreeable to me simply to express the great pleasure which I, in common with all the people of this central portion of the state, have in welcoming to our midst our brother fruit growers of California, and in thanking you most cordially for the great honor yau have done us in again selecting our town for the holding of your convention.

* * *

We fruit growers of California have been accustomed for so many years to be praised for our thoroughness in the cultivation and general management of our orchards and vineyards, for the intelligence and skill displayed in the selection of varieties of fruits, and the combatting of insect pests, for the broad-minded and masterful enterprise shown in the rapid development of our industry, and for the great success achieved in the quality of our products, that perhaps we may be in a measure pardoned for sitting still and purring gently while our fur is being stroked the right way.

We have had weak and half-hearted efforts to organize the producers of cured peaches, apricots and pears, but with no success.

As to the efforts to organize the prune growers you all know about that miserable failure. And yet while the prune growers are this season making a desperate effort in a detached way to force up the price of prunes to a 3c or 3¼c basis, every man familiar with market conditions, and the absolute fruit famine this year all over the world, knows that if the growers were united in a marketing organization they could get 4c easier than they are getting 2½c now. In France the prune growers are getting three times the price the California growers are getting, and for no better fruit, in fact, not as good as ours. In Hungary, some weeks ago, some of the prune growers not knowing the situation, sold at a low figure; others found out about the scarcity and at once raised the price 100 per cent, while those who sold early almost created a riot because the government officials were slow in issuing their crop bulletins. Pray God that we may develop some of that spirit here in California.

As to the methods of organization, resourceful men should be able to devise half a dozen different methods,

(Continued on Page 460

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Dec. 11, 1903

Circulation this issue 9,900

OF GENERAL INTEREST.

The Poultry Show.—The Los Angeles Poultry Association is holding one of the most successful exhibits held in this state. The number of entries will be about double those of last year, which was regarded as a fine show. The interest manifested in poultry, and especially in fine breeds, is far in excess of any former year. There are many more birds of expensive pedigree, and a great many more people looking up varieties than ever known in the history of poultry culture. It goes without saying that the fowl is king in California.

* * *

Herbert Spencer.—The passing of Herbert Spencer to spirit life marks the event of the year in litirary prominence. He was indeed one of the world's greatest thinkers and writers in that he was able to bring together the sum of human knowledge and treat the universe from one view point. He was so broad in his comprehension of life and its philosophy, that he was able to work along various lines instead of being confined to a single branch of science. As a writer on synthetic philosophy he stood pre-eminently the most distinguished of the century.

* * *

The residents in the Cahuenga orchard district, in which Hollywood is situated, who were frightened because of the mischievous reports circulated that the West Los Angeles Water Co. is about to deprive that district of water, for domestic and irrigating purposes, will be glad to know that no such an act was ever thought of by the managers of that enterprise.

Rain Needed.—The need of rain is beginning to be noticed by our agriculturists. This, so far, has been an exceptionally dry season, one rain having fallen during the past two months, up to the time this is written (the last day of November.) Last year two inches of rain fell in November, and the average for the month for thirty years is one and a half inches. Rain is needed to wash the gutters, and the sewers, and the trees, and the atmosphere, and to freshen things up generally.

* * *

For Good Roads.—The Cultivator is glad to note the interest being taken in the matter of improving our roadways. In this, and other counties, in this part of the state, an active campaign is now being made and a memorial is an urgent request of Congress signed by the dairymen, the citrus fruit people, the automobilists, the farmers and everyone interested in good roads. The burden of the memorial is an urgent request of Congress to pass the Brownlow bill, or some similar measure. This bill provides for an appropriation of $20,000,000 by the government to be apportioned among states and similar political subdivisions according to population, for the improvement of roads. California will receive $500,000 as her share. but the bill provides that each locality shall furnish an amount equal to that to which it is entitled.

* * *

Report of Secretary of Agriculture.—The annual report of the Secretary of Agriculture for 1903 is at hand. It is a voluminous document of over 100 pages and deals with the varied agricultural conditions of the country in the terse and interesting character of the author. He takes up the qustion of enforcing the pure food law and the inspection of animals and animal products, and recommends the most careful and vigorous enforcement of all laws covering these interests. In the Department of Animal Industry a satisfactory showing is made. Blackleg has been greatly reduced in percent, and hog cholora very materially curtailed in its ravages.

* * *

The State Fruit Growers:—The convention of fruit growers now in session at Fresno is the twenty-ninth held under the auspices of the State Board of Horticulture, or more properly now the State Commissioners of Horticulture. Some years since they were held semi-annually, then owing to shortage of funds were held annually, usually in the north. At the San Francisco meeting last December it was announced that funds would permit the holding of two sessions, so a spring meeting was held in Los Angeles. If these meetings benefitted only those attending, it would be a discouraging waste of state money. But very few hundred, at most, are ever attracted by the discussions. But between the agricultural and daily press, the publication and distribution of the convention proceedings in pamphlet form by the state the vast fund of information there brought together is of great worth. Better, the movements initiated which have lead in some cases, to great good to the fruit interests of the state are further justification for continuance of these conventions.

* * *

Parcels Post—Edward Berwick believes in pulling on one string and hollering for every body else to get a hold and pull to. At present it's parcels post. In season and out of season at the State Fruit Growers' Convention Mr. Berwick has promoted his pet theory. Well, its a good thing and we believe worthy of pushing. It will certainly be a great benefit to the rural class—we believe it will benefit all the people, it will be a good thing for the nation. Great Britain has a better postal service than the United States has. There an eleven pound package may be forwarded anywhere within the kingdom for 24 cents free delivery anywhere within three miles of depot.

If the American farmer could send, for such extremely low figures, his higher priced, lighter articles and receive merchandise deliverd to his door there must be great benefit. For instance, Fresno could secure immense extension of market for raisins if it could advertise and send all over the United States fancy cartoons of raisins for say six or eight cents. California flower trade could be developed, seeds and plants freely sent and other benefits readily seen. But can the government afford it? Great Britain does and last year had a net profit in its postal department of over $20,000,000.

* * *

The Farmer's Taxes—In another column of this paper may be seen reference to a paper read at the Fresno Convention by Hon. John Tuohy of Tulare, in which a claim is made that formers pay far more than their just proportion for the support of county, state and national government. Such a statement should attract attention at this period when the farmer goes down the steps from the tax collector's office with an empty wallet in his pocket and bitterness in his soul. Thousands of well salaried men live in fine homes and enjoy the protection and benefits of government and all the luxuries which it brings, yet pay not one cent of taxes. Other thousands, through evasion and falsehood escape with only small proportion bearing their part of the load. But the farmer—he's "easy." Every article on the farm from the old setting hen up to the old bay mare has got to be listed. The writer of this knows of a national bank in California with a capital of $50,000, deposits reaching hundreds of thousands and paying taxes on —— $500. Yes, five hundred, no mistake in the figures. Of course there were government bonds, and the savings bank turn, also other twists which made it appear that even the $500 was almost unjust. Poor bank.

Meantime the farmer, if he goes to Sunday-school, says nothing and pays taxes. If he doesn't go to Sunday-school he says things and pays taxes.

What are we going to do about it? Ask some one else. The Cultivator doesn't know.

As a hint, though, we might say it might be well to form more farmers' clubs, get together and talk a little and think a lot.

Hon. Geo. C. Pardee, Governor of California, appeared before the State Fruit Growers' Association and made a ringing speach which will make every Californian proud of the state and every fruit grower proud of his calling.

If Columbia is really marching an army to invade Panama, she will have the experience which effort brings—nothing more.

STATE FRUIT GROWERS' CONVENTION.

(Continued from first page)

any one of which would bring success.

If the plan of the Raisin Association is not adapted to the larger needs of the producer of prunes, peaches and apricots, or if through the mismanagement of the board of directors of the prune association that plan is discredited, why not take as an eminently successful model the best of the labor organizations? Create local centers of organization all over the state where deliveries are to be made, and let the packing of the fruit be done by those who produce it. The local organizations to create a central board of delegates which through inspectors shall enforce a uniform standard of packing that shall command the confidence of the trade, and create a valuable trademark. This central board to have the sole control of prices and the distribution of the fruit. The proceeds from sales to be sent in lump sums to the various local organizations to be by them paid out to the farmers.

This need not interfere in any manner with the sale of the fruit through the present established channels of trade. It simply reserves the packing and—a very important point—retains the possession of the fruit in the hands of the growers until paid for.

No self-respecting man or body of men, can say that because of failure once, twice, or a dozen times, they need not try again. I hope, therefore, that on this day and by this convention, a movement will be started that will redeem our characters as intelligent and enterprising men, and through its resultant prosperity our fruit growers will add their quota to the renown of this glorious state—California."

* * *

Mr. Kearney's paper had some points which plainly reflected on the management of the California Raisin Growers' Association and D. D. Allison, a member, responded with considerable heat which made things look smoky for a few minutes when several members called for order, and as one member from Tulare said, this State Fruit Growers' Convention is no laundry for the purification of dirty linen.

A. R. Sprague spoke on Possible and Impossible Co-operation. Co-operation amongst California fruit growers is necessary to best results in marketing fruits. Success will be due to confidence in eastern trade and confidence in the membership and in the management. The speaker's idea is that there is abundant ability to manage if the growers will but get together and stay together.

C. D. Harvey spoke on co-operation—the whole evening's program was in fact along the line of co-operation. The greatest disaster comes to the growers as the result of distrust and discouragement. As an organizer of such movements he found the greatest difficulty in establishing confidence. The grower looks with distrust on such movements and withholds his support. But past failures should give lessons which will lead to future success. Mr. Harvey's work has resulted in establishing co-operative packing at Edenvale; East Side, San Jose; West Side, Santa Clara, Campbell and Willow Glen.

In the discussion it was brought out that the raisin output of the state will aggregate this year about 48,000 tons of raisins, or nearly 6,000 in excess of former crops. For this the money has been paid in the shortest time. Already $2,000,000, or about half of the total amount, is paid over.

Mr. Coombs, of Lindsay, Tulare county, ended the evening in a whirlwind of fun by telling some catchy stories and appealing for a co-operation which should cover the whole state and the whole range of products.

Glendora Citrus Nurseries

Washington Navel, Thompson Improved Navel
Valencia Late and St. Michael Orange Trees
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DANCY and OONSHIU TANGERINES
"NECTAR" POMELO

This stock is one-year buds on two-year roots.

1,000,000 FANCY ORANGE SEED BED STOCK

A good look at these trees is sufficient to convince the most particular buyer—send for prices.

W. G. HALL - GLENDORA, CAL.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

THE GROWERS' EQUIPMENT.

An article in the Fruit Trade Journal of New York, among other slurring references to the work of the California Fruit Agency, makes exceedingly light of the fact that the agency is sending a representative to England and the Continent to work up a trade on navel oranges. It seems a great error on the part of the disgruntled commission merchants of the East, for the fruit growers of California, through their agency, to spend a few hundred dollars in exploiting new markets. The Journal estimates the crop of Valencia oranges this season at 8,000,000 boxes. "Think of trying to make a business of bucking this proposition with California navel boxes, on which the freight alone is, or was, $1.50 (to British points)." Of course we do not expect the commission men's organs to be favorable to any growers' organization which is selling its own fruit. That very fact places the California Fruit Agency without the pale of sympathy or toleration of the commission men. The organs only take an occasion like that of exploiting the British markets, for the purpose of casting general ridicule upon the marketing agency that is taking away the commissions. But it is to the Journal's prating about the experiences of exploiting new markets and the cost of equipping the Agency that we wish to give attention.

Year after year the Fruit Exchange has demonstrated its ability to market fruit at less than half the cost of selling through the commission men. I have referred to this fact time and again through the columns of the Cultivator, giving figures to prove the statement. Fortunately we have a living example of the cost of selling commodities upon a commission basis, in the walnut association, which pays one commission firm $50,000 to $60,000 for selling each crop of walnuts. Upon this basis it would cost the citrus fruit growers nearly a million dollars to dispose of the present crop upon a commission basis. This is where the shoe pinches. The California Fruit Exchange is doing business for its members upon the basis of actual cost, whatever that may be, and the California Citrus Union is doing business for its patrons upon a contract price per box, fair, reasonable and at a great reduction from the former cost of the same service to the same people. It is a flat rate of so much per box for packing and selling in the latter case, and actual outlay in the former. In neither case do the commission men get to handle this fruit unless it may be under the eye of a representative of the Agency. This is a perquisite killing, honest returning arrangement which will be sustained in spite of the opposition of the men who formerly handled a large portion of this fruit upon a percentage basis.

To the erstwhile commission takers we may proffer a word of advice. Get on to the facts that you still have a vast majority of the farmers of the country to feed upon, but you have lost the Southern California contingency forever; you are now the only considerable body in opposition to the plans of the California Fruit Agency and your opposition will prove as fruitless as your position is lonesome; you should keep yourselves warm and well nourished and free from worry; you should become aware of the fact that the farmers of this part of the state are not dependent upon you in the least and, consequently, you have no way of reaching them in your wrath. The success attending the farmers' cooperative movement has proven again that the fittest survive, and you not being of that degree of fitness to stand, have already perished from the citrus belt of Southern California; that we parley with you only because there are a few of us who have not discovered your demise and they should be reminded that you are in the condition of the proverbial door-nail.

WEATHER AND CROPS.

Cool weather prevailed throughout the state most of the week, with heavy fogs along the coast and in the great valleys a portion of the time. Light frosts were frequent in nearly all sections and severe frosts occurred in some places, but caused no material damage. A minimum temperature of 28 degrees was recorded in Santa Maria on the 5th. High winds in Southern California injured orchards to some extent, and drying winds in that and some other sections absorbed much of the moisture in the soil, rendering irrigation imperative. Light rain fell in San Diego and vicinity Sunday night.

In the northern portion of the state the soil is in excellent condition, and farm work is progressing rapidly. In other sections the rainfall has been generally too light for farming operations and plowing and seeding are backward. Early sown wheat and oats are thrifty and making good growth in the central and northern sections, and green feed is becoming plentiful, but in most of the southern districts grass has made no growth and rain is needed soon. Stock are in fair condition and steadily improving.

Orchards and vineyards are in good condition and pruning is in progress in many places. Oranges in the Porterville and Oroville districts are yielding a good crop, excellent in quality, and large shipments are going forward. Southern California oranges are ready for harvest and shipments have commenced. The crop is reported large. It is probable that oranges were damaged by the severe winds in Southern California. Other citrus fruits and olives are doing well.

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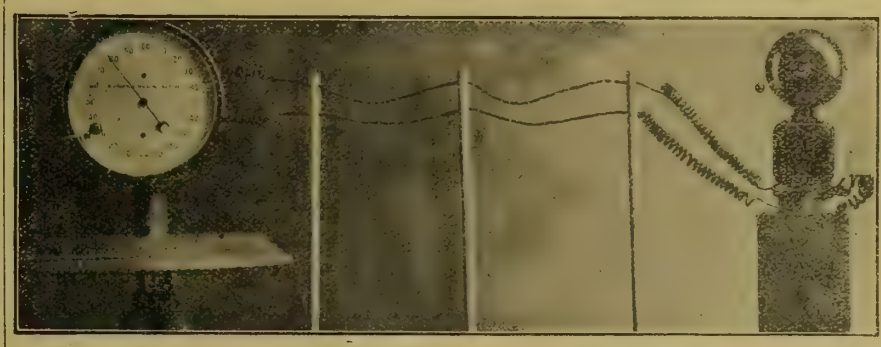

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JAS. MILLS, Mgr. RIVERSIDE, CAL.

RIVERSIDE NURSERIES, Riverside, Cal. Fullerton, Cal., Oct. 24, 1903.

Dear Sirs—It is with no small degree of pride that I point to the orange orchard that I set out in June, 1902, with stock from your nurseries. I am not acquainted with any orchard of similar age that has done so well, and is today so promising. This certainly speaks in no uncertain language of the character of the stock coming from your nurseries. Very respectfully, CHARLES CHAPMAN.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

FUNGUS DISEASES OF TREES AND THEIR TREATMENT.

Throughout the great pear growing section, along the Sacramento river, the fungus disease known as pear scab, pear cracking or leaf blight, has been so bad during the past season as to very materially reduce the crop. This is one of the great group of fungus diseases, which are usually prevalent during damp seasons, when the best conditions are afforded for their growth and distribution. The group contains some of the most destructive and difficult diseases which the fruit grower has to contend against, among them the shot-hole fungus of the apricot, the curl leaf of the peach, apple scab, brown rot mildew of the grape, and many others. These all flourish especially well during the early spring months, and continue late into the season unless their growth is checked by hot, dry weather. It has been on account of the past season being unusually cool and moist, along the Sacramento river section, that the pear cracking has been so bad. The pear cracking is sometimes confounded with or mistaken for pear blight, which is altogether a different thing, due to different causes and operating in a different manner. The pear blight is bacterial in its origin. It is caused by the germs, or bacteria, being introduced into the tree from some outside agency, frequently by insects, which, flying from diseased trees to healthy ones, carry with them the fatal bacteria and inoculate the healthy trees. Its point of entrance is usually through the blossom, working through the blossom stem into the fruit spur and thence into the branches and down into the trunk. This disease works wholly in the cambium layer, or the sapwood, and is entirely hidden from sight, only becoming visible when it breaks out on the surface. It is impossible to reach this disease with any remedies, for this reason that it is wholly within the tree and not alone on the surface. With pear scab it is different; this disease, in common with the whole fungus group, is wholly a surface disease, and can be reached by sprays and its course checked, if not altogether stayed, if it be taken in time. It is of little use spraying when the disease has made its appearance, however, as then the damage has been done. When a peach tree is covered with curl leaf, it is a waste of labor to attempt to cure it; it cannot be done. The same is true of pear scab. When the disease makes its appearance on the newly formed fruit, with minute red spots, it is certain that the fungus is rooted in it, and while spraying may check its growth somewhat, the fruit will be ruined in any event and the fungus may as well be allowed to have its way. Therefore, in this class of diseases, all remedies must be preventive. The grower must act on suspicion and spray when there is no evidence of disease present. If he has discovered any fungus diseases in the fruit the preceding season, or knows of any in his vicinity, he may be pretty sure that the spores have found lodgment on his trees and are only awaiting favorable conditions of warmth and moisture, which the spring will bring, to develop into life and spread with wonderful rapidity over fruit and foliage. All fungus diseases originate from spores, a minutely fine dust, which is the seed of the plant. This is shed by the parent plant in the fall and is carried by the wind in all directions. Some of it finds lodgment in suitable locations on the twigs of trees suitable to its growth, and here it remains dormant until the favorable conditions of the spring awaken it into virulent activity. The remedy is to deaden these spores at the period of their least resistance and when they can be most easily reached, and this is during the period of dormancy. To accomplish this all diseased fruit should be burned as a precautionary measure, thus preventing the shedding of vast amounts of spores, then all prunings should be burned as soon as removed from the trees; this is also precautionary. The next measure is to use a spray that will destroy the spores and for this purpose a solution of sulphate of copper, the best of known fungicides, has been found the most effective. This solution combined with lime, which prevents injury to the trees, is known as the Bordeaux mixture and is prepared as follows:

Copper sulphate (blue vitrol) 4 pounds.
Quicklime (not air slacked) .4 pounds.
Water, to make ....50 gallons.

Dissolve the copper sulphate in about two gallons of hot water contained in a wooden vessel, by stirring, or even better, by suspending the sulphate contained in a cheese-cloth sack in a large bucketful of cold water. With the cold water and cheese-cloth bag a longer time is required. Pour the sulphate into the barrel or tank used for spraying, and fill one-third to one-half full of water. Slack the lime by addition of a small quantity of water, and when slacked, cover freely with water and stir. Pour the milk of lime thus made into the copper sulphate, straining it through a brass wire strainer of about thirty meshes to the inch. Pour more water over the remaining lime, stir, and pour into the other; repeat this operation until all the lime, except stone lumps or sand, is taken up in the milk of lime. Now add water to make 50 gallons in the tank. After thorough agitation the mixture is ready to apply. The mixture must be made fresh before using and any left over for a time should be thrown out or fresh lime added.

This mixture is of strength designed for winter use when the trees are dormant; it is too strong for use when the trees are in leaf as it would burn and destroy the foliage, a much weaker preparation is then used which may be designated as Bordeaux No. 2, and is in the following proportions:

Sulphate of copper ....2 pounds.
Quicklime ....2 pounds.
Water, to make ....50 gallons.

For pear scab this should be used in the winter before the buds begin to swell and the mixture should be of the full strength. A second application, and this time of the weaker solution, should be made when the leaves are out, and about two-thirds grown; a third application may be made if it is thought necessary. This remedy and method of using it is practically the same for the whole group of fungus diseases and may be applied for curl leaf of the peach, shot-hole fungus of the apricot, etc.

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DECIDUOUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

BEST PEACHES FOR ANAHEIM.

Editor Cultivator:—Will you kindly let me know which you consider the best four peaches for this locality, something that will prove a fairly regular bearer, not subject to dying back, varieties which will leaf out when peaches ought to leaf and not wait until July, as sometimes happens. Will any kind of orchard trees grow where old peach trees have been taken out? I have taken out some peach trees and reset with peach trees but have not succeeded in getting good growth though I filled the hole with dirt brought from a distance. Do you know where I may get table varieties of grapes grafted on Lenoir roots.—Subscriber, Anaheim.

We think the four best varieties of cling stone peaches are Sellers, Phillips, Yellow Tuscany and Henrietta. They are all good yellow clingstones. All things considered, Heath's cling is the best white cling. It is hard to designate with any degree of fairness the four best free stones. We would feel contented if we had nothing more than a good supply in their regular seasons, of Crawford's Early, Large Early York, Pansy Pabor and Wiggins. These are always later than the southern peaches in blooming, but they are fairly reliable. Those which will start to grow as soon as the proper season arrives, are found in the southern varieties. Angle is a good early one. Early Cream, Triana and Countess fill out the season very well. The last four named will invariably leaf out and bloom at the proper time, but they are very subject to curl leaf and if not sprayed with Bordeaux mixture at least once in two years, very little fruit will survive.

It is very difficult to start a young peach tree where an old one has been taken out. In fact it is hard to start any tree and make it grow off at a good pace when planted so. The soil has been well worked out in such spots. The best way to secure good growth under such circumstances, is to add a good lot of nitrogenous material in the bottom of the holes and feed it to it as the tree grows. A good mulch of stable manure will help out better than anything.

We do not know of any table varieties of grape on Lenoir roots nearer than Fresno, though inquiry at the various nursery yards may locate some.

* * *

FERTILIZER FOR STRAWBERRIES

Editor Cultivator: What is the best fertilizer to use for strawberry plants, and when is the best time and how best to apply. My soil is a sandy sediment, rather heavy, plenty of water.—N. H., Covina.

The fertilization of strawberries is a question that has not been settled or even tried in a systematic way in this state. We know of no best way to apply it, nor can we give any definite rule that will be a good guide. The strawberry is a ravenous feeder and roots shallow, hence the application need not be much below the surface. We should judge that a superphosphate, sulphate of potash and plenty of stable manure would give excellent results. All of these ingredients are soluable in water and will be taken down readily into the soil. We would apply them in the winter so as to get them at the roots when they make their rapid spring growth. Experiments of value could be made along these lines.

CITRUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

GRAFTING OLIVE AND ORANGE TREES.

Editor Cultivator: Please tell me the time of the year to graft olive and orange trees.—Albert Glaser, Healdsburg.

Olives may be grafted any time from early in May till midsummer and perhaps until later. They are continuous growers and may be grafted whenever the sap is flowing freely. Good success may be had by machine grafting such as is often done in vineyards.

Orange trees should not be grafted. Failure will almost surely follow. Bud the tops on the old limbs, as soon as the young growth gets a good start in the spring, which usually happens some time before May. At the time of budding, all of the main branches not required in budding, should be sawed off and the wounds waxed over. The buds should be slipped under the bark in a circle at the point where the new top is to be started. They should be slipped in at the lower end of the slit that receives the bud, as this method prevents the rain and dew from trickling down the incision. The buds should be wrapped with strips of stout cloth coated with beeswax. If the spring is cold and backward, leave the wraps on for at least six weeks. Four weeks are long enough if the spring is warm and the growth is rapid. In locations where there is no danger of severe winter frosts, the tops may be removed at the time of taking the waxed cloth from the buds. At the same time, the stumps should be waxed over and the trunks whitewashed. Numerous sprouts will start out all over the trunks of the trees, but these must not be allowed to grow. The whitewash, if put on thick enough, will prevent sunburn and the sprouts do nothing but take the sap that should be used by the buds that are to make the new top.

After the young top has grown to be about 18 inches tall, the tips of the young shoots should be cut off. This will slightly check the growth and cause the shoots to branch. When they make a still further growth of 18 inches to two feet, they should be topped again. If the shoots from the buds are allowed to continue growth without interruption, they will become top heavy and break off by their own weight or will be broken by the wind. If the orchard is in a windy location, the new top should be tied to stakes, even if they have been topped. Some cut them back before the heavy winds set in; other growers drive stakes and tie to them. We have seen good results by nailing light stakes to the main branches, so that they will stick up through the new top and form a steady support. We do not advocate such savage treatment of trees as a general rule, but we have seen it done and the year after the nails were drawn from the trees, no sign of injury could be detected.

If the location in which the trees are grown is subject to severe winter frosts, the tops should be left on the trees until the buds have made the first year's growth. At the time of removing the bands from the buds, the branches should be girdled about half an inch above the buds. The top will continue to draw a little sap and during the following winter frosts will act as an umbrella. The following spring, a year from the time that the buds started, the tops should be sawed off and the stumps waxed. No tying to stakes will be required to prevent breakage from wind, but, should this be anticipated, the buds may be tied to the tops during the first year.

NOTICE OF MEETING.

The annual meeting of the members of the Apple Growers' Association of Los Angeles County will be held at Room A in the Court House, Los Angeles, on Saturday, Dec. 19th, at 10 a. m. Programme will be, election of officers for the ensuing year. A consideration of the question and possible benefits of incorporation. Fred'k. Maskew, Sec'y.

The Farmers' Tribune has established a reading coarse for the winter evenings. The idea is a good one. A variety of literature tends to broaden the mind and, at the same time, furnish most pleasant recreation for the family circle. Add to good books some jolly game of innocent character before retiring for the night and sleep will fall as gently as a summer song.

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Are are specialty. We have an extra large stock of strictly first-class gum trees for sale this season, consisting of twelve varieties extra fine large plants. We are headquarters for

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Wc call special attention to our stock of grape roots. Cuttings have been selected from nothing but strong and healthy vineyards and have been fumigated with hydrocyanic acid gas before planting in nursery. We can absolutely guarantee this stock free from disease. The list comprises all the leading wine, table and raisin grape varieties, also resistants.

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J. W. BAIRSTOW, HANFORD, CAL.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A. B. C. OF INSECTS

(Continued)

As we all will remember, the names of the orders of insects are founded on peculiarities of wings. We have discussed the Neuroptera or lacewings, the Orthoptera with their thick front wings which are known as tegmina, the Hemiptera with their primary wings thickened at the base, making them appear like half wings, though as we will remember, one suborder, Parsitica, have no wings, and the second, the Homoptera have the four wings thickened all alike and none thickened at the base. The bird lice, of Mallophaga, are also wingless, while the thrips, or Thysanopter (tassel wings), have very simple wings, all with very broad fringes. The Coleoptera, or beetles, have sheathed wings, or elytra. All of the winged insects treated so far, if we may except the male coccids, have four wings. We now come to a marked exception in this respect.

* * *

DIPTERA.—As we would infer from this name, the insects of this order possess only two wings. These are the two winged flies. The wings are membranous with a rather simple venation. Here belong such familiar insects as the common house-fly, the annoying mosquito and gnat, the Mexican orange fly, and the terribly destructive Hessian fly and the wheat and clover midges. The mouth parts of these insects are greatly modified. They have a suctatorial beak, in which the labium especially and the mandibles and maxillae are largely developed. Unlike the bugs which they most resemble in their mouth organs, they do have one pair of palpi, the maxillary. That they can use these mouth organs with effect is evidenced in the mosquito, the cruel gnats and the tormenting horse fly. The transformations here, of course, are complete in the last four orders. As almost every one knows, the larvae in this order are known as maggots and they are footless. They are also different from other larvae in the structure of their mouth organs. Two little hook like jaws, which are moved backward and forward, tear the plant tissue and this enables the insects to absorb the juices. They also differ in the pupae state, where many of them pupate in their last larval skin, and are called pupariums. At this time they look strangely like a grain of wheat or other seed, hence the name flat seed state for the pupa of the Hessian fly.

The insects of this order are very varied in their habits. For the most part they do their evil work while yet in the inchoate state, though, as we know, the mosquitoes, house flies and cruel horse flies, are very annoying after they gain maturity. Many of them work on decaying matter and thus remove what would otherwise be offensive, as witnessed in the carrion and blow flies. Many develop in fungi, some live in the water, one family are very valuable parasites and two families do us great good as predacious insects. We also find here the curious bot flies which so disturb cattle, sheep and horses. Curiously enough, these bot flies have no mouth parts at all and so cannot harm the animals they annoy in the least. It must be simply nervous dread caused by their hum, which makes the animal which is to receive the eggs, so distraught. We also have in this order some of the most destructive insects known to man. The Hessian fly which blights the wheat plant, and the wheat and clover seed midges are second to hardly any insects in the damage which they cause. The Anthomyians, or flower flies do great damage to onions, radishes and cabbages, while species of Tterpeta blast the hopes of the apple and orange orchardists. The sheep tick, which, of course, is no tick at all, and some curious lice-like insects which work on bees and birds, also belong here. Thus we see that this order forms a motley company although their structural affinities quickly decide that they belong to one great order. Linneas included the fleas in this order, but they are quite different from all others of the order. They not only have both pair of palpi, but they also have only simple eyes, in which respect they differ from all other insects. Although this is a limited group it is so distinct that without doubt, it should be regarded as a separate order. Comstock groups these in the order Syphonaptera. As all well know, they are fitted for jumping and are nimble beyond compare.

There is one very important parasitic family of diptera. These insects are known as the Tachina flies, and they closely resemble the common house fly. They lay their eggs upon other insects and as soon as these eggs hatch, the maggot works into the host, and soon leaves naught but a deviscerated carcass. We can hardly measure the good that we receive from these Tachina flies. The olive caterpillar, which came as a flood into the olive orchards last year at Rialto, and a few years ago very generally in the state, were overcome, instanter, by the Tachina flies. One reason that we have the army worm only upon occasional years, is that they are held in check by these same China flies. It would be hard to measure the benefits that the gardener, fruit grower, and general farmer receive from these friendly parasites.

I will close this paper with a few words on the predacious species. There are two families of these. The robber flies—Asilidae—are either black or gray-black with long tapering bodies, or else robust and yellow like bumblebees, which they closely mimic. They are very fierce and do immense good, though unfortunately they are not as discriminating as we could have wished, for the honey bee often becomes a victim of these large hungry flies. The other family consists of the little quick, beautiful Syrphids. These little, often striped yellow and black flies also mimic bees and wasps. They are often seen about flowers in company with bees, and dart from one flower to another like a ray of light, so quick are they on the wing. The larvae of these are cone-shaped and are fierce enemies of plant lice, which they often devour in the spring of the year by the millions. Their pointed mouth end makes it easy to stab and suck juiceless the unfortunate aphids. Here again, we are under a great debt of gratitude to these Syrphid maggots.

* * *

IMPROVEMENT SOCIETIES.

These are the old Farmer Clubs under a new name. No matter for name if the work is up to standard. At Compton and El Monte, strong organizations were formed and equipped for work. There is happily a greatly renewed interest in such organizations. People begin to realize, as never before, the value of such organized effort It is the purpose of the conductor of our Farmers' Institutes to aid and encourage this work to the utmost. Its furtherance means better work, a better social status, better and cleaner politics, and the securing of needed reforms.

* * *

LATE INSTITUTES.

The Compton and El Monte Institutes were away up to the front in all respects. The first was among the very best. The Chino lacked support. It was stated in excuse, that most ranchers about were renters, and so took little interest in improved methods. A few present showed great interest, and were eager for information. A paper on the Dairy at Compton, by Mr. Moore, at Chino; on Alfalfa, by Mr. V. Gustafson, and at El Monte, on Walnut Culture, by Mr. P. F. Cogswell, were most excellent.

* * *

THE FARMERS' CLUBS INSTITUTE.

This meeting at San Diego was a most pronounced success. If we except Pomona, and possibly that is unnecessary, I think this ranks in most respects as the best. The local arrangements were superb, the local attendance all that could be desired, the music the best we have ever had, the program and discussions were of a very high order, the spirit of the entire meeting was admirable, and the yacht ride on the bay and the splendid banquet the last evening, with music and happy responses to toasts was a most fitting conclusion to what will long linger in the minds of the visitors.

* * *

BEES IN CALIFORNIA.

E. B. Maurer of Ontario asks the following questions regarding bees: "Can pure Italian bees be obtained anywhere in Southern California? What hive is best for this climate, and what locality is best for this industry? There can be no doubt but that pure Italian bees can be had in our state, though it would be as easy to send East for these as to get them at home. As is well known, the easiest way to get Italians, is to introduce an Italian queen, when soon after, all the bees will be of this race. As queen bees can be sent safely, the country over, or even around the world for the expense of a simple postage stamp, we see that we are not limited in locality when we may wish to purchase. If. Mr. M. wishes to purchase near home, I suggest that he write to his county foul brood inspector, Mr. R. B. Herron of San Bernardino, who can doubtless inform him where pure Italian bees are to be secured.

I think no better hive exists than the common Langstroth hive with Langstroth frames. These are not only excellent for all purposes, but as there are more of these hives than any other, it is better for all to secure them. It is quite desirable to have the hives most in use, as in selling and buying bees, such uniformity is very desirable.

As to the best locality, that is hard to give. I think that taking the years together, the bees have done the best in the region of Newhall, where Mr. Mercer has secured his enormous crops. Mr. Mercer sports a $1200 automobile, secured for but a small fraction of last year's honey crop. One can hardly go amiss of good localities, however, in any part of Southern California. Of course he should be in a region of abundant sage and wild buckwheat, and if abundant orange orchards and vast alfalfa fields are hard by his locality will have more to recommend it.

* * *

BLUESTONE, OR COPPER SULPHATE.

J. W. Duckworth, Loara, Cal., asks for the amount of bluestone in washing seed or any grain to guard against smut. Although I used bluestone on my father's farm, when a boy, I do not remember the exact proportions, but I do not think these are very material, as the bluestone is quite cheap. We know in Bordeaux mixture, abut one pound is used to ten gallons of water, and for soaking seed, we cannot make any mistake in using it at this strength or even stronger. I should not hesitate to use one pound to five gallons of water, and should expect all the spores to be destroyed. I think it is very important to use this copper sulphate very freely in any such case as planting asparagus seed, where there was as yet no rust. I should certainly advise getting seed from rust-free localities and should then use the further precaution of soaking the seed in bluestone water. I certainly hope that in the regions of Imperial and Coachella, these suggestions will be quickly followed. I am aware that Prof. Smith thinks that in those dry regions the asparagus rust will gain no foothold, but it is a matter of such tremendous importance that I urge upon all farmers there to take particular caution against this insidious foe of the asparagus beds.

* * *

DRY SPRAYING OF FRUIT.

Subscriber from Los Gatos, Cal., asks for further information regarding the use of dry spray in the orchard. This referred to dusting the orchard with poison rather than putting it on mixed with water. I have used the Woodason dust bellows not a little but do not think it begins for general practice with the liquid spray. Thoroughness must be the watchword and it is difficult enough, even with a good spray pump run by power to do thorough work. It might pay in case of red mite to use the best dust bellows, thus supplementing the distillate spray. I believe Subscriber can do nothing better to eradicate his scale and remove the black fungus of smut than to club together with his neighbors and purchase one of these spraying machines. They are giving great satisfaction in this region and new ones are being sold each day.

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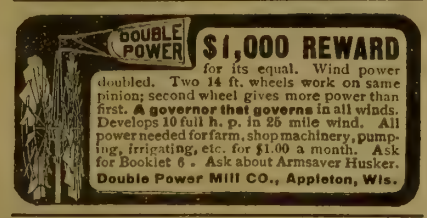

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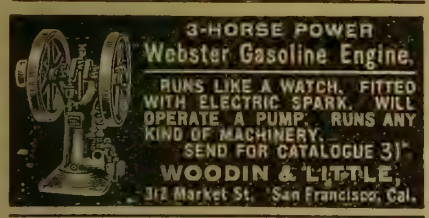

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Navels and Valencias
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Coast News and Notes

BY R. A. DAGUE, COR. SUTTER AND SANSOME STS., SAN FRANCISCO

MISCELLANEOUS.

A cement plant to cost a million dollars is to be erected at Santa Cruz.

The records show that last month was the most stormy November California has had for fifty-five years.

Several fatal cases of ptomaine poisoning have recently been reported in California from eating canned meat.

Lake is one of the finest counties in California, but very montainous. It has no railroad, but a movement has been inaugurated to build one.

According to the figures presented by the Southern Pacific, that company has located between 5000 and 10,000 persons in Oregon since last spring.

The Southern Pacific is building an immense loading rack in the Coalinga oil fields. It will have 32 spouts and two tanks of 55,000 barrels capacity each.

The statement is made that 10,000 girls are wanted in Kansas to take positions in families to do domestic service. The same might be said of nearly every state in the Union.

The announcement was made one day last week by the government, that the cotton crop of the United States for 1903 will be 9,962,039 bales of an average net weight of 490.3 pounds.

A German has invented an instrument which he calls an Orthodiagraph by which he can take a photograph of all the intestinal organs of the human body.

A co-operative organization of importers of the United States is being organized. Already more than 200 large firms have agreed to become members.

Francis McCarthy, a fifteen-year-old boy of San Francisco, through friends has applied for a patent for a system of wireless telephoning. It is a great discovery.

The Spring Valley Water Company of San Francisco has decided to issue bonds to the amount of $28,000,000. They will bear 4 per cent interest, payable semi-annually.

The proposed house of 1000 rooms to be erected by J. A. Kinghorn Jones, in San Francisco, is not to be erected on the building and loan association plan, as stated two weeks ago, but the plan has co-operative features.

J. A. Filcher, of the State Commission to the Louisiana Purchase Exposition, has arranged to have September 4, 1904, California Day, at the St. Louis World's Fair. California is the first state to have a day set.

The Harbor Commissioners of San Francisco have revoked the permits of four firms which allowed them to do business at the wharf, on the ground that they have violated the Woodward law.

It is asserted that Professor Loeb of the State University, has produced a skeleton of a new hybrid by fertilizing sea urchin eggs by the sperm of the star fish. This, it is said, indicates that a cross may be made between two different species, which possibility has never been conceded by scientists.

A great discovery has been made by James Dennis, of Richmond, Indiana. He is manufacturing bricks of fuel from clay and a chemical known only to himself, which furnishes a steady, lasting heat that will not cost half as much as coal. A company is to be formed to manufacture the fuel.

The late decision of the Supreme Court in the case of Katz vs. Walkinshaw has created wide-spread interest among farmers and water companies. The gist of the decision is that one man, or a corporation, does not have the right, even on his own land, to divert percolating water. Water companies cannot utilize water from mountain or valley by diverting it from its natural course.

It costs the state $250,000 a year to run the San Quentin prison and $120,000 to run the Folsom prison. It costs the seven counties of Southern California $13,689 transportation fees to send these prisoners to the penitentiaries named. The proposed new prison in San Diego county would cost the state $1,000,000.

The Inter-State Commerce Commission has decided to hold at Washington the final hearing on the California fruit forwarding case on January 14. On that day, representatives of the fruit growers, Southern Pacific Railroad and Santa Fe Railroad will appear before the commission to present arguments, and soon afterward a final decision in the case will be announced.

AGRICULTURE.

The farmers near Hollister are planting red oats extensively. But little wheat is being sown.

Mrs. H. D. King, of Texas, owns the largest farm in the world. It contains 1,000,000 acres, worth $25,000,000.

It is asserted that the Armours have cornered the potato crop of California, and are shipping the potatoes East.

The Dervin cannery, of Healdsburg, packed 35,000 cases of tomatoes this season for the Rochdale Wholesale Company.

Government seeds are being sent out by Senators Perkins and Bard, and California congressmen. Write them if you want any seeds.

A movement is on foot to raise 400,600 to be expended in erecting a sugar beet factory at some point in the Sacramento valley not yet decided on.

According to the Stockton Mail, L. A. Phillips and J. K. Toles are preparing to plant flax on their reclaimed lands. They will also erect a mill and produce linen fiber.

Harvey C. Stiles, of Chico, says an active committee is working with the Government, with a good show of success, to have the government seed gardens located there.

W. H. Hennage, of Point Arena, Mendicino county, informs the Cultivator that his county never produced a finer, sounder and more perfect apple crop than was grown this year.

Prunes are beginning to move at Ukiah. A few days ago Henry Smith sold twenty tons at $55.00 per ton, and Hugh and Edward Cox contracted their crop from ten acres for $3000.

J. H. Gray will divide up his 131 acres in Rincon valley into small tracts and put on the market. It is all highly cultivated. This tendency toward ten and twenty acre farms is growing.

About 1300 car loads of apples at this writing have been shipped from Watsonville this season. The shipments have been divided between San Francisco, Los Angeles, London and Liverpool.

The crops of Ventura county were immense this year. The ware houses are filled to their utmost capacity. One at Moorpark now contains over 67,000 sacks of barley, wheat, beans, dried apricots, besides 400 cases of honey.

A very valuable work on resistant vines and a discussion of phyloxera has been translated from the French and can be had by addressing Professor Edmund H. Twight of the Agricultural Department of the State University.

Professors P. H. Dorsett and Stubenrauch, with Wm. A. Taylor, of the Department of Agriculture, addressed the members of the Santa Ana Chamber of Commerce on the 28th ult., in relation to the location of the experimental garden site.

To prevent the co-operative association of the grape growers, the wine manufacturers have agreed to contract for grapes for three to five years at $15 per ton, retaining the right of the sugar test. The growers insist on being paid $20 per ton and abolish the sugar test.

A colossal co-operative movement of farmers has been launched at Chicago. It is announced that 20,000 farmers of Oklahoma and practically all the farmers of Kansas stand ready to go into it. The managers of the movement say in due time they will have eight million members.

Mr. Wilson, Secretary of Agriculture

Arizona Everbearing Strawberry Plants
Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

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Largest **CITRUS SEEDLING** Nurseries in the state
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Contract now for spring delivery Washington Navel & Valencia Late trees also grape fruit or orange seedbed plants for nursery
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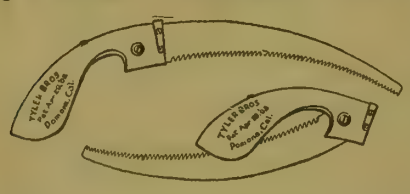

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Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

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We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,

Station K, LOS ANGELES, Cal.

Coast News and Notes

CONTINUED

of the United States, says of our beet sugar industry: In 1896 19,260 tons of sugar were made, and a year ago 220,000 tons. Careful estimates put the present crop at about 260,000 tons. The growing of seed in the United States of a superior quality is assured.

HORTICULTURE.

A great many Santa Clara county farmers are planting olive trees.

The prune market in the Santa Clara valley is still very dull, but an improvement is expected after January 1.

The Santa Rosa branch of the California Fruit Canners Association has finished its pack for the season. They put up 153,024 cases.

The Grangers of Sonoma county, in a late convention, have unanimously voted in favor of establishing a cooperative fruit association.

Alden Anderson, manager of the California Fruit Distributors, says the association will keep its office open until next deciduous fruit season, but will handle no deciduous fruits this winter.

The Southern California Horticultural Commissioners will hold a meeting at San Bernardino some date this month, for the purpose of discussing ways and means for fighting fruit pests.

The prospects for a large crop of olives in Santa Clara county are good. The fruit will be large enough in a month to harvest for pickling, but will not be sufficiently ripe for oil before February.

A. R. Sprague, Manager of the California Fruit Exchange, informs the Cultivator that their total shipment of fresh and dried fruits this season was about 700 carloads, and of the Fruit Distributors over 7,000.

Judge J. H. Wills, of Auburn, says that Placer county can show oranges which ripened in the middle of October, this year, that could not be duplicated in size, color, flavor or commercial value in the state.

Citizens of Mendocino county resent the report that they cannot successfully grow prunes. W. D. White of that county, has a prune orchard that bears fruit that for size and quality compares with any prune raised in the state.

The principal almond growing counties are Alameda, Contra Costa, San Joaquin, Solano and Yolo. In these five counties there are 7,610 acres of almond orchards. The value of the average almond crop is $40,000, or about $41 per acre.

The marketing of oranges of Central California will be over before the fruit in Southern California is ripe enough to ship. The acreage of orange orchards of the northern and central part of the state is not large but the crop is very fine.

The San Francisco Chronicle recently sent a representative to the store of every retailer of fruits and vegetables in the city to get prices. It was found that a great many articles were double the price of that demanded in Oakland, hence the Chronicle's assertion that there is a combine among the retail dealers. This is in violation of the state law and the Harbor Commissioners have commenced to enforce the law.

The Earl Fruit Company has been reorganized and the place of business transferred from Los Angeles to Sacramento. The directors are five in number and are: Edwin T. Earl, E. M. Butler, George Carty and R. W. Poindexter of Los Angeles and M. M. Harding of Santa Ana. The capital stock is $100,000, $99,600 of which has been subscribed by E. T. Earl. Each of the other directors subscribed $100 each.

LIVE STOCK.

The sheep in Tehama county are freer from disease this season than for several years part.

During the past three months there have been shipped two to three carloads of poultry per week into San Francisco from the East.

A famine in milk and cream prevails in Santa Paula, owing to lack of rain and scarcity of feed. The output of the dairies has been greatly curtailed and cream sells for $1.50 per gallon.

At the meeting of the Petaluma branch of the Sonoma County Poultry Association, Saturday, it was stated that San Francisco commission merchants had threatened to obtain their supplies of poultry and eggs from the east, instead of patronizing the poultrymen's organization. The threat was treated as a huge joke by the assembled poulterers.

TEST THERMOMETERS.

Editor Cultivator: I noticed in one of the "Cultivators" that you advised those having incubators, to have the thermometer tested before starting the machine for the season. Will you kindly tell us through the Cultivator how this is to be done, and oblige one of its subscribers.

Very truly yours, Laura R. Keith, Campbell, Cal.

As you are living in a city the easiest way would be for you to take the thermometer to a drug store and ask your druggist to test it for you I, living too far from a druggist, take a 10-lb. lard bucket (or larger), fill it with warm water, about 103 degrees, get a clinical thermometer, or one I am sure is correct; put them into the water, keep it stirring and see if they are all the same temperature, and run the incubator accordingly. Some friends of mine bought a new incubator, put into it some $25.00 worth of eggs, and lost every one because the thermometer was two degrees wrong. The incubator company gave them another thermometer, but they lost the eggs.

—Mrs. A. Basley.

CATTLE IN THE SOUTHWEST.

J. G. Dardin, one of the big cattle growers in Texas, gives it as his opinion that the day is not far distant when the live stock industry will be removed from Texas and the southwest to the northwest.

A meeting of cattle growers was held at Santa Barbara this week and an organization perfected for the purpose of stamping out the Texas fever in that county. E. S. Sheffield of Santa Barbara was elected president and E. C. Tallant secretary. Representatives of like associations from Ventura and San Luis Obispo counties were in attendance and methods of co-operation were discussed.

Percy Whitehead has purchased the Jersey bull, Marigold's Orange Tormentor, advertised in this paper by Mr. Keefe, of Orange. Mr. Keefe has purchased three pure-bred heifers from George Thomas, of Riverside. Mr. Whitehead, in starting this herd of Jerseys, will be the first one in this section to become a member of the Southern California Jersey Breeders' Association.

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Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe evenue, Los Angeles.

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STRAWBERRY PLANTS

I have for sale several thousand Arizona Everbearing Strawberry Plants. Very thrifty.

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Blackberry, Raspberry, Loganberry, Strawberry. Full line of Nursery Stock.

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C. H. SESSIONS, ASSOCIATE EDITOR

THE DAIRY.

The Institutes at Compton, Chino, and El Monte emphasized the importance of the Dairy. Two most important papers were given; one by Mr. E. E. Moore of Compton, and one by Mrs. Sherman. The three words pertinent to the dairy are "nice, 'nough and neatness." The cattle should be of far better quality. How quick we are to strike down any enemy that stands in the way of success. The trust that would strike down our business success, we would throttle if we could. The indifferent cow, or the positively worthless cow draws heavily on the profits from the balance of the herd. Why not kill her? Mr. Platt would have no cow that would not give an average of ten quarts of milk a day for the year, counting out the six weeks that she is dry. I would say ten quarts per day, not counting out six weeks or any weeks. Mrs. Sherman will keep no cow that will not, if mature, give 10,000 lbs. of milk a year. My standard is 7300. Every dairyman should have this mark to aim at. If he will make Mrs. Sherman's higher standard his aim, all the better. This is a matter that every dairyman should face. Use the Babcock test and the measure and the knife.

The cows must have good care, kindness, abundant good food. The loss in this direction is frightful. The returns from abundant food, succulent food, kind treatment, regular care in all lines would be startling in many a dairy.

The third point—neatness—is even more in need of attention. Mrs. Sherman says the barn should be neat as a parlor. The dairyman who would win success, must use plenty of whitewash, must sprinkle freely with gypsum, must have cement gutters, must keep all clean, must thoroughly brush the cow before milking, must never practice wet milking, and must use his nose to the effect that no tainting odors pollute his milk and spoil his product. The dairy can have no more necessary partner than absolute neatness.

Messrs. Sessions and Platt both emphasized the supreme importance of the most absolute neatness. This not only gives security for excellence of flavor, but also lessens the evils from harmful bacteria which find in milk their most coveted diet.

HUMANITY TO HORSES.

A pretty sure way to bring a horse's bones to the surface and fix in his mind the idea that "This world's a wilderness of woe," is, after a hard day's work, to drive him two or three miles to town, tie him in front of the store and let him eat "post meat" for an hour or two, while his owner is discussing national finance, the Panama canal, the Chinese problem or Turkey and the Powers, says Rural New Yorker. Many good horses have "gone to pieces" at 12 years of age because they have had to do so much overtime. They are not given the time for eating and rest that nature requires and are often tied in cold, windy places or drafty sheds, which tend to give them colds and stiff joints. Of course it is much better to avoid making a horse work so hard during the day that he cannot without injury be taken out at night, but the press of farm work often makes it necessary to crowd the team more than is good for them. At such times it is both economy and humanity to let the horses have the whole night to themselves.

Address all communications to
DR. H. D. FENIMORE, Veterinary Surgeon,
642 So. Broadway, Los Angeles, Cal.

To the regular subscribers of the California Cultivator, answers to all veterinary questions will be given n this department free of charge. When an immediate reply by mail is desired, enclose on dollar. Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease appeared.

Editor Cultivator: Is there any cure for a horse that has a slight, yellowish, partly decomposed discharge from the nostril. Occasionally, during the cold rains of last winter, but not lately, the matter assumed a slightly bloody tinge. Horse is in good condition and seems to experience no inconvenience save a blowing off from the nose especially when driving against the wind. The odor of the discharge is simply excrutiating to the human sense.

Also, can you give manurial value of cocoanut meal when fed to cattle compared with that of oil cake meal?

An answer will greatly oblige.

There are hollow bony cavities on each side of a horse's head lined with a mucous membrane. When these become diseased and filled with pus, the discharge is very offensive and comes in spurts. The only way to cure the animal is to trephine and wash out the cavity. It is not a difficult operation and is almost always followed by a cure.

* * *

SORE TEATS.

Editor Cultivator: Can you tell me why my cow is troubled with sores on her teats difficult to cure. Some have been on there two months and just now commencing to heal, but she gets new ones. It at first is a little scratch, then it spreads and a big black crust forms.

Make an ointment of one ounce of vaseline and one drahm of Squibbs' compound alum powder. Rub a little on the teat after each milking.

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DAM—Legal Tender, 42315. Private record of 379 lbs. of butter in a year.

SIMONDA DE KOL
Registry applied for. Dropped Nov. 12, 1900. White with black tips to ears and small spots.

SIRE—Ignaro De Kol, 23533. Sire, Johanna 5th, Paul De Kol. Dam, Cascade Princess, official record 17 lbs. in 7 days.

DAM—Mamie Clifden Judith, 43191. Private record of 72 lbs. in 30 days. Average test, 4.2.

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The Elements of Successful Dairying

BY E. E. MOORE, COMPTON

This subject naturally divides itself into three main topics: 1. The man; 2. The location; 3. The animal.

It seems to be a popular idea that when a man proves a failure at everything else he should try farming and a few cows thrown in, to keep the family. While I do not hope in this short paper to exhaust all the merits of this subject, yet I shall be pleased if I am able to show that successful dairying requires talent of a superior kind, coupled with energy, and a never-flagging interest. These are qualities required in the successful prosecution of any and all businesses.

No one should hope to succeed in dairying who has not been more or less qualified, both by inheritance and surroundings. He should be a good judge of form and a keen observer of apparently trifling details, and the possessor of a good memory, or he can not hope to be able to select animals capable of producing the greatest returns. I think one of the most necessary requirements of a successful dairyman is a kindly, sympathetic nature, that would impel the owner to go hungry, rather than his stock. He should be a generous man, who will not stint his cattle, but willing to make any sacrifice for their welfare. He must be fond of young and a lover of pets. I have always noticed this last quality very prominent in the make-up of one of our most successful Los Angeles dairymen, when visiting my ranch. He always has a kindly word and a caressing stroke or gesture for every animal, especially the calves and tender young things. In fact, one must be a lover of his stock in order to bring out their best qualities.

Henry Drummond, the great English divine, has taken as the subject of one of his most powerful addresses: "Love, the Greatest Thing in the World."

Kindness in the handling of stock, and especially milk cows, will work wonders. Without it all the money of a Vanderbilt would prove barren of results, the bluest blooded stock would descend to the level of the meanest scrub, and the life of the dairyman "swallowed up in shallows and in miseries." Kindness and patience are better capital to invest in dairying than the wealth of a Rockefeller, else the rich would have a monopoly of the business. If a poor man possesses these qualities, in a superior degree, he is in better shape to succeed than the rich man, deficient in them, though of greater wealth and business capacity

The successful dairyman will be a great reader of dairy papers; for by them he will be saved many costly experiments, and helped over many quagmires which would engulf him if left to his own resources. Jas. A. Garfield once said that "he never talked with a man five minutes without learning something he had not known before." So with the dairyman; however great his experience, and however bright his genius, he must find great profit in the advice and counsel so generously provided in our many estimable dairy papers.

He must be a man of rare judgment and a keen observer of cause and effect in breeding, or his selection of dam and sire will produce no superior offspring.

I am a firm believer in the Shakespearean idea, "There is a Divinity that shapes our ends rough, hew them how we may." Every man has within him the qualities that will enable him to perform certain acts, more expertly than others. If after a careful and intelligent study of his native abilities he should believe himself adapted to stock-raising, the next thing to determine is a suitable location. Many a fine talent has been hidden or even shipwrecked by being used or applied upon the impossible. The first consideration for the location of a successful dairy is the ability to grow an abundance of succulent foods of a variety adapted to milk production. Without an abundance of available fuel the mightiest engine is useless, so the cow, without an abundance of food and drink, constantly available, will only be a source of disappointment and worry to her owner. If asked which I deem the more essential, feeding or breeding, I would reply, "Without feeding your breeding is useless, and without breeding your feeding is wasted."

In choosing a desirable location the availability of a ready market cannot be overlooked. Many a man possesses eminent qualifications for a certain line of business and may have a suitable location in every respect, but the distance to market or the expense of placing his product before the consumer may be so great as to eliminate every vestige of profit. As a well-known example, take the fruit growers of this state. Many of the brainiest men in the nation have settled here and planted an orchard or vineyard of choicest varieties, and cared for it till his trees were loaded with delicious fruit, only to see it rot on the ground for lack of a suitable market. I hope to see the day when the Isthmian canal shall furnish our coast cheap and rapid transportation to the great markets of our Eastern coast. But few people realize the importance of the events now transpiring, or what a glorious place this immediate section is bound to become within the next few years. With the completion of our harbor and the Isthmian canal, we will have equal facilities for disposing of our products with those east of the Rockies, and a soil and climate capable of producing from three to four times as much each year. The effect will be a rapid increase, not only in our wealth, but also in our population, thus enlarging our home market.

With the coming of the trolley lines into our country in every direction we are actually nearer the heart of Los Angeles than many who reside within her corporate limits. With the great markets of this rapidly-growing city within 15 minutes of our doors there is no reason why this section should not become famous for her splendid herds, and I firmly believe that such will be the case.

You have doubtless heard of the sensitive plate of the photographer or of the Roentgen jar of the X-ray machine, or of the needle in the mariner's compass. Did it ever occur to you that the cow is a more sensitive machine than any of them? Imagine what would be the effect if the doctor should give his X-ray machine a whack with his pill-case. Yet it is not an uncommon thing to hear of some would-be dairyman pounding his cow around with his milking-stool. It is no wonder he growls about his test and thinks his cheese factory-man or creameryman is buncoing him out of his stool-extracted earnings. The reason why—the cow requires more care and intelligence and kindness than the photographer's plate.

By this time I am almost persuaded that the chief element to successful dairying is an intelligent man. But let us continue the discussion of the animal. Don't think for a moment that I am going to laud the Jersey cow above all the rest, simply because I am the proud owner and breeder of some pretty good and pretty famous and pretty pretty Jersey cows. I am like St. Paul in at least one respect. I will "let every man be fully persuaded in his own mind." Having chosen a breed which your judgment tells you is best adapted to yourself, your locality, and your market, then have the grit to stay by your decision at least till you are satisfied beyond reasonable doubt that you are wrong. Keep only full bloods; that is, if your pocketbook permits. If not, then get a good sire and a few equally good females and start in on the never-ending task of building up a herd. I say never-ending, and I mean it.

For many years it was declared that the two-minute trotter was a creature only of fancy. The world went wild when Cresceus made his record approaching that long-desired limit. When at last that marvel of horse flesh, Lou Dillon, made her wonderful record, the world took a long breath and sat down contented, thinking this would never be excelled, only to be speedily startled by the announcement that she had lowered her own record. So it should be in the breeding of dairy animals.

A brief summary of the requirements of the ideal dairy cow is perhaps pertinent here. I would have her, whatever its quantity or quality, persistent in the production of milk. The cow that does not give a vast amount when fresh, but throughout the year holds up to that amount, will at the end of the year show a greater profit for her owner than the one which starts in with a great flourish for a month and then gradually descends till by the end of the year it requires a decided effort to get a showing of color in the pan. I would have a cow of equable, easy temperament, not readily disturbed or provoked, giving her flow of milk easily and without too great a time at milking. This cuts down the expense item and is far more satisfactory. In order to do this her udder must be well balanced—not too fleshy, teats good size, neither too large nor too small, and properly placed. I would have her low down, with large girth and good base to the brain. Then on the withers, catham, broad, springing ribs, showing no tendency to beefiness. Do not misunderstand me to be an advocate of the proverbial "bag of bones." I believe it possible to combine the beautiful with the useful. A conglomeration of boards, nails and shingles may form a building capable of performing a given service for its owner; but it would be much better if a little care and taste were exercised so that an ornamental as well as useful product of saw and hammer were the result. A man may wear even a blouse, hat and overalls in such a condition of neatness and taste as not to be repulsive. It is well that we pause in the mad rush of life and cultivate the bet-

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ter side of our nature. It is well that a man provide a good house to shelter his family from the inclemency of the weather; but one's heart goes out in response to the show of feeling and taste exhibited by the lawn and shrubbery and sweet-scented roses with which he has beautified that home.

I have never forgotten a description I once read of the herd of Jerseys of one of England's most famous breeders. To describe one was to describe all: dark grays, with tan muzzles and great, beautiful eyes that looked with contentment and confidence upon the observer.

I have heard the gold prospector tell of the thrill and excitement attendant upon the uncertain hunt for gold. It seems to me there is no comparison to the thrill and pleasure and even excitement the careful breeder has in watching the outcome of his crosses. The gold hunter banishes himself from home, from comfort, from civilization, almost from life, without any assurance of any remuneration. The stock breeder is always sure of something, and if his foundation stock be properly selected, his pleasure and profit will grow with the years.

There is no business with fewer risks of failure than that of the care and breeding of dairy animals, and no better location under the sun than that of Compton.

MOLASSES AS CATTLE FOOD.

The experiment undertaken in Brooklyn, in feeding horses on molasses caused little surprise there, says a New Orleans correspondent of the New York Sun. Molasses has for two years been in general use in Louisiana for the feeding of horses, mules and all live stock, and probobly nine-tenths of the draft animals in the sugar districts get this food either alone or mixed with oats or corn. The animals like it, and are kept in splendid condition by it. "Sugar mules," which are fed on molesses mainly, are worth from 20 to 25 per cent. more than the mules on cotton plantations, which are fed generally on cottonseed and cottonseed meal.

Molasses has been a waste product in Louisiana ever since the improved processes in the manufacture of sugar have extracted more of the saccharine from it than formerly. It has been a problem how to get rid of it. The discovery, therefore, that it could be used as a food for live stock was of double value. Six months ago a factory was erected for the manufacture of cattle food from molasses. The process is very simple. The molasses is mixed with corn or oats in nearly equal proportions, the mixture pressed into a solid mass and dried, then ground into a fine powder. It is like the cottonseed meal with which cattle and horses are fed throughout the world. Horses, mules and cattle are very fond of molasses, and they do better on it than any other food. They keep fat, and are capable of extraordinary work in hauling heavy loads.

SWINE NOTES.

Young growing pigs crave a variety of food and it can be given them in slops better than in any other way. Even middlings and bran they do not relish as when made into slop.

The extra food digested all goes to profit whereas the food that supplies animal waste produces no gain in flesh, and if no more is fed than to supply waste in the young animals the food is practically all thrown away. Hogs are raised only for their flesh and the fewer days it takes a pig to accumulate enough to be of any considerable size, the more profitable it is for its owner.

As a rule sows that are kept too fat during gestation will farrow a litter of weak sickly pigs that are often hardly worth the trouble and expense of raising.

Very large boned hogs are not desirable on account of the waste or loss due to the unnecessary bone, besides such hogs do not usually have the best action and the limbs are not so strong as those of hogs with medium sized bone. The construction of large limbs are too loose.

No farm animal likes a warm bed better than the pig and unless he has comfortable quarters for sleeping no amount of food given him in cold weather will do anything more than keep him from losing flesh if it does that. To keep thrifty and growing during the winter, warm, dry quarters are absolutely necessary.

To think that a hog does not relish a clean bed is not to know the nature of the animal. He will walk a long way at night to sleep on a bed of fresh straw and to note the amount of satisfaction he gives, on finding a clean pen and a fresh litter of straw, is proof of his cleanly nature when he has the opportunity to exhibit it.

WHERE PROFITS GO.

Many dairymen wonder why they do not derive greater profits from their busines. They have not counted the cost of the cows in the herd that do not pay their keeping. That is where so many dairymen fall behind. Often it is the case that half the cows in a herd do not return in milk the cost of their keep. In the last quarterly report of the Kansas Board of Agriculture Secretary F. D. Coburn puts the matter in this way:

"If the man behind the cow in Kansas would do his part no unprofitable animal would masquerade under the fictitious appellation of 'milch cow,' and she would either go to the butcher's block or be made to return a profit by more intelligent care and management. It passeth understanding why theft by a cow should be tolerated more than theft by a human. In effect, the result to the loser in either case is the same. Our government has found it wise to study and establish far-reaching methods for the detection and the repression of the latter; and, by the same token, why should our farmers and dairymen be less vigilant in regard to this possible proclivity in their cows—beasts described as dumb yet outwitting their owners? So long as cows of this class are permitted in the dairy herd, so long will there be dissatisfaction and failure. Improvement is the route to success, whether by breeding, better management, or other ways, and intelligence in our cowmen is the power that will force advancement in the right direction. Dairying has come to be one of the most important factors in Kansas agriculture, and rightly conducted, is one of the surest money-makers of our varied industries. It is incomparably more rational than any one-crop system, or even general farming, as its practice tends to rotation of crops, maintains or increases the fertility of the land, and affords steady employment with return renumerative according to the brains mixed with the business."

MILK FEVER.

Editor Cultivator: I have noticed the articles on this question which have appeared in your paper. I have found that commencing milking the cow two or three weeks before calving to be the surest and easiest preventive. Besides, six weeks before calving, I stop all grain, and give raw potatoes—thus cooling the blood—a very important help. Generally speaking, it is only deep milkers which need these precautionary measures. L. W. W.

NOT SO BIG.

The types made us say, last week, that a young cow of Mr. Leffingwell, Jr., gives 16 gallons of milk a day, when it should have read "16 pounds of milk a day." Mr. Leffingwell has many finely bred cows, which give very rich milk, but has hardly reached that stage of perfection in his herd where any of his cows give a "wash-tub" of milk with a corresponding percent of butter fat.

KEEP CLEAN CHURNS.

If proper care is not exercised in keeping the churn sweet and clean the butter will be tainted, no matter how well the milk has been cared for before being ready for the churn, writes a correspondent in Farmer's Wife. Before beginning the work of churning one should have plenty of water on the stove so it may be boiling hot and ready for use as soon as the churning is finished. The buttermilk should be taken from the churn as soon as possible and the churn washed out with cold water, then it must be cloths in cold water, and then they should be put in a strong pearline suds and allowed to boil for at least twenty minutes, then they should be rinsed and hung out in the air and the air to dry, but not in the sun, thoroughly scalded and set out in as the sun warps the wood. If it needs sunning wait until the churn is perfectly dry and then set it in the sun. A small brush is excellent for cleaning the corners and crevices that are not easily reached with a cloth, and what is more important than the churn itself is the cloths used for washing and wiping it out. A churn cannot be made clean with a dirty cloth, and a cloth of this kind is one of the best known places for breeding disease germs, and these may be washed from the seams of the pans or corners of the churn. It takes only a few minutes to wash the few days, the cloths may be kept white and sweet smelling.

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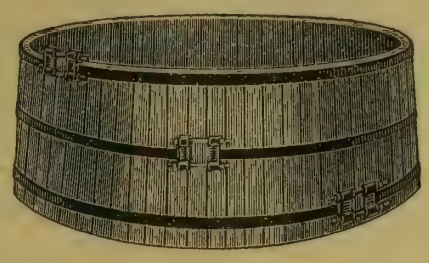

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Orrick, No. 183,987
Quantity and Quality—Lady Lee, .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3: Idlewood, 6.2. Choice young stock for sale.
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SHROPSHIRE AND
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Both Sexes For Sale
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Registered and High-Grade Shorthorns
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A CREAM SEPARATOR that does the work perfectly, AUTOMATICALLY, without power or chemicals, in 30 minutes. GUARANTEED. Agents wanted, either sex. Address
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California's Premium Herd of Shorthorns
27 Premiums awarded State Fair, 1902
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REGISTERED BERKSHIRE HOGS
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BOARS—ARTFUL LEE, 52930, Champion Boar, California, 1900, PACIFIC DUKE, 56691, three-quarter brother to N. H. Gentry's famous Lord Premier.
SOWS—MODEL PRINCESS, 60134, first prize two-year sow, Pan-American, '01. FASHION 60133, weighs 1000 lbs. in show condition. The greatest brood and show living.
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S. B. WRIGHT, Breeder Santa Rosa, Cal.

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We are offering for sale at very low prices a magnificent lot of bull calves. In our herd may be found all the leading families of this great breed of Dairy Cattle. There is no grade equal to the get of a fine Holstein sire on common cows. Visit the ranch, or write
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Rialto Building San Francisco, Cal

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

THE SAN FRANCISCO SHOW.

The poultry show is over and the coops are hastily being tagged for the Los Angeles show. Over 300 of these birds are going to try and win ribbons in that show as they have done here. It has been a fine exhibit of birds, a success financially, though not attended by the ordinary poultry raisers to the extent desired. The great drawing card was the dog display. San Francisco people came by the thousands to see the dogs, and incidentally they looked at poultry. Many poultry fanciers were there from all parts of the state. But the common, every day poultry raiser in the vicinity of such an exhibit should come to a greater extent than was the case here.

There were about 1400 chickens, turkeys, geese and ducks. There were about 300 pigeons. There were not far from 300 dogs—some magnificent animals. And then there were cats, we don't know how many.

Instead of comment on the quality of any poultry exhibited, we give better information below in the list of awards. One house, not mentioned last week, which made an exhibit—Sure Hatch incubators—by the Seattle Produce Co., Pacific Coast agents for that incubator.

BARRED ROCKS.

Cocks. 1st and 3rd S. M. Butler, 2nd A. J. Schmittgen, 4th W. H. Arps, 5th F. S. Low & Co.

Hens. 1st and 3rd A. J. Schmittgen, 2nd and 5th S. M. Butler, 4th Willis S. Rose.

Cockerels. 1st W. H. Arps, 2nd S. M. Butler, 3rd A. J. Schmittgen, 4th W. L. Kennedy, 5th H. R. Campbell.

Pullets. 1st S. M. Butler, 2nd and 5th A. J. Schmittgen, 3rd H. R. Campbell, 4th W. H. Arps.

Pens. W. H. Arps 1st, 3rd and 5th, 2nd and 4th S. M. Butler.

WHITE ROCKS.

Cocks. 1st C. G. Hinds & Co., 2nd E. K. Healy, 3rd S. M. Butler.

Hens. 1st S. M. Butler, 2nd C. G. Hinds & Co., 3rd, 4th and 5th E. K. Healy.

Cockerels. 1st and 2nd S. M. Butler, 2nd C. G. Hinds & Co., 4th and 5th Frank Robertson.

Pullets. 1st and 5th S. M. Butler, 2nd and 3rd C. G. Hinds & Co., 4th Frank Robertson.

BLACK MINORCAS.

Cocks. 1st Arthur Letts, 2nd Santa Teresa Poultry Farm, 3rd, 4th and 5th, W. S. Childs.

Hens. 1st, 2nd and 3rd W. S. Childs.

Cockerel. 1st W. S. Childs, 2nd J. J. Truman, 3rd Santa Teresa Poultry Farm, 4th H. F. Crandall.

Pullets. 1st Santa Teresa Poultry Farm, 2nd and 4th Arthur Letts, 3rd J. J. Truman, 5th J. P. McDonough.

Pens. 1st and 2nd W. S. Childs.

S. C. White, Leghorns.

WHITE PLYMOUTH ROCKS.

Cocks, 1st C. G. Hinds & Co., Alameda, Cal.; 2nd E. K. Healy, Alameda, Cal.; 3rd S. M. Butler, San Bernardino, Cal.

Hens. 1st S. M. Butler, 2nd C. G. Hinds & Co., 3rd, 4th and 5th E. K. Healy.

Cockerels. 1st and 2nd S. M. Butler, 3rd, C. G. Hinds & Co., 4th and 5th Frank Robertson, Alameda.

Pullets. 1st S. M. Butler, 2nd and 3rd C. G. Hinds & Co., 4th Frank Robertson, 5th S. M. Butler.

BARRED PLYMOUTH ROCKS.

Cocks. 1st S. M. Butler, 2nd A. J. Schmittgen, Sacramento; 3rd S. M. Butler, 4th W. H. Arps, 5th F. S. Low & Co., Petaluma.

Hens. 1st A. J. Schmittgen, 2nd S. M. Butler, 3rd A. J. Schmittgen, 4th Willis S. Rose, Antioch, Cal.; 5th S. M. Butler.

Cockerels. 1st W. H. Arps, 2nd S. M. Butler, 3rd A. J. Schmittgen, 4th W. L. Kennedy, Fowler, Cal.; 5th H. R. Campbell, Petaluma.

Pullets. 1st S. M. Butler, 2nd A. J. Schmittgen, 3rd H. R. Campbell, 4th W. H. Arps, 5th A. J. Schmittgen.

Pens. 1st W. H. Arps, 2nd S. M. Butler, 3rd W. H. Arps, 4th S. M. Butler, 5th W. H. Arps.

BLACK MINORCA.

Cocks. 1st Arthur Letts, Los Angeles, 2nd Santa Teresa Poultry Farm, Eden Vale, Cal.; 3rd, 4th and 5th, W. S. Childs, Fruitvale, Cal.

Hens. 1st, 2nd and 3rd W. S. Childs.

Cockerels. 1st W. S. Childs, 2nd J. J. Truman, 3rd Santa Teresa Poultry Farm, 4th H. F. Crandall, Milwaukee, Wis.

Pullets. 1st Santa Teresa Poultry Farm, 2nd Arthur Letts, 3rd J. J. Truman, 4th Arthur Letts, 5th J. P. McDonough, Geyser.

Pens. 1st and 2nd W. S. Childs.

SINGLE COMB WHITE LEGHORN.

Pens. 1st Williams Bros. & Ward, Fruitvale, Cal.; 2nd C. B. Carrington, Haywards, Cal.; 3rd D. A. Robertson, San Jose, Cal.; 4the M. J. Madison, Haywards, Cal.; 5th A. Bailey, Berkeley, Cal.

Cockerels. 1st, 2nd, 3rd, 4th and 5th C. B. Carrington.

Pullets. 1st and 4th E. Richards, Sacramento, Cal.; 2nd C. B. Carrington, 3rd and 5th Williams Brothers & Ward.

Hens. 1st and 2nd E. Richards, 3rd Williams Brothers & Ward, 4th C. B. Carrington, 5th M. J. Madison.

Cocks. 1st Williams Brothers & AWO AWARDS Krucke 13mb ORR Ward, 2nd, 3rd, 4th and 5th C. B. Carrington.

BUFF ORPINGTONS.

Hens. 1st and 3rd Burbridge & Co., Los Angeles, Cal.; 2nd and 4th J. R. Riddell, 5th W. S. Sullivan, Agnews, Cal.

Pullets. 1st and 5th Burbridge & Co., 2nd W. S. Sullivan, 3rd Arthur Letts, 4th George Meller.

Cocks. 2nd, 3rd and 4th J. R. Riddell.

Cockerels. 1st, George Meller, 2nd, 3rd and 4th W. S. Sullivan, 5th Burbridge & Co.

Pens. 1st and 2nd W. S. Sullivan, 3rd George Meller, 4th W. S. Sullivan.

SILVER WYANDOTTES.

Cock, Cockerel, Hen. 1st Jas. Mitchell, St. Helena.

Pullet. 1st and 2nd Jas Mitchell.

BUFF PLYMOUTH ROCKS.

Cock. 2nd G. D. Lubben, Alameda, Cal.

Cockerel. 1st Dr. T. B. Key,

Pullet. 1st Dr. T. B. Key, 2nd H. H. Holland, Fresno; 3rd T. B. Key.

Hens. 1st H. H. Holland, 2nd and 3rd Dr. T. B. Key.

GOLDEN WYANDOTTES.

Cock. 2nd Jas Mitchell.

Cockerel. 1st J. English, Fresno; 2nd Jas. Mitchell.

Pullet. 1st Jas Mitchell, 2nd J. English, 3rd Jas Mitchell.

WHITE MINORCAS.

Cockerels. 1st and 2nd W. S. Rose, Antioch.

Pullet. 1st W. S. Rose.

CORNISH INDIAN GAME.

Cocks. 1st, 2nd and 3rd Percy Ward, Fruitvale.

Cockerels. 1st . E. S. Greenby, Compton; 2nd Percy Ward.

Hens. 1st, 2nd and 3rd Percy Ward.

Pullets. 1st, 2nd, 3rd and 4th Percy Ward.

Pens. 1st Percy Ward.

HOUDANS.

Cockerel. 1st and 2nd J. J. Truman, Gilroy.

Pullet. 1st and 2nd J. J. Truman, Gilroy.

BLACK LANGSHAN.

Cockerels. 1st P. C. Mayer, San Mateo; 2nd F. Fenwick, Portland, Or.

Pullets. 1st and 2nd F. Fenwick.

BLACK COCHIN BANTAMS.

1st Cock, 1st and 2nd Hen, 1 Cockerel F. Fenwick.

WHITE WYANDOTTES.

Cocks. 1st Santa Teresa Poultry Farm, 2nd Jas Hague, 3rd and 4th Santa Teresa Poultry Farm.

Cockerels. 1st Miss Florence Forbs, Napa; 2nd, 3rd and 4th Santa Teresa Poultry Farm, 5th J. W. Morrisy, San Francisco.

Hens. 1st, 3rd and 4th Santa Teresa Poultry Farm, 2nd Jas Hague.

Pullets. 1st and 5th Santa Teresa Poultry Farm, 2nd J. W. Morrisy, 3rd Florence Forbes, 4th Jas Hague.

Pens. 1st Santa Teresa Poultry Farm.

LIGHT BRAHMA BANTAMS.

Cocks. 1st H. G. Torley, Oakland; 2nd W. H. Deming, Menlo Park.

1st Hen, 1st Cockerel, 1st Pullet, H. G. Torley.

EGGS

Buff Leg orns from Chicago world's fair prize winners, $2.00 per 15.
Buff Opringtons, Harris strain, Clay Center, Nebraska, $1.50 to $2 00 per 15.
Buff Orpingtons, Riddel stock, Fresno, Cal., $1 50 to $2.00 per 15.
White Leghorns, Lytle strain, $1.00 per 15.
All strong, healthy ranch raised stock.
LOUIS S. FLETCHER, ANAHEIM. CAL.

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Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale. Eggs $2 per 15 January to July.
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Expert Breeding of All Varieties of Ducks. Sixteen entries, sixteen firsts at San Francisco Show, 1903.
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This perfect 200-egg Wooden Hen at $12.80 is a startling trade innovation. It will do the work of the most costly hatcher, and always keeps in order. Hatches every fertile egg. Catalogue with fourteen colored views sent free.
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Send for Catalogue B if interested in poultry raising. Forty pages of valuable information.
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BREEDER OF
STANDARD WHITE LEGHORNS and BARRED PLYMOUTH ROCKS
Eggs and Stock for sale at reasonable prices

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There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
C. C. SHOEMAKER, Box 718, • Freeport, Ill.

Albers' Black Minorcas
Have the best show record of any strain west of the Mississippi River. They are unsurpassed in vigor, egg production and breeding by any strain of any breed anywhere.
Old and young stock for exhibition or breeding at reasonable prices. Circular and show record free.
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Buy of the Largest Poultry and Seed House in Southern California
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CHAMBERLAIN'S CHICK FEED
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500 CHICKS $4.00 **Four Dollars** $4.00 500 CHICKS
WORTH OF
Croley's Dry Mixed Chick Feed
Will carry 500 chicks safely over the Danger Line—all of them. Most economical. No cooking. No mess. Always ready to feed. Saves time. Saves labor. Saves millions of chicks.
25-lb. Sack for 125 Chicks $1.00 — 50-lb. Sack for 250 Chicks $2.00 — 100-lb. Sack for 500 Chicks $4.00
Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.
Geo. H. Croley, Poultry Supplies
508 SACRAMENTO ST. SAN FRANCISCO, CAL.

Burbridge & Co., Los Angeles, won on Black Orpington 1st Cock, 1st and 2nd Hen, 1st and 2nd Pullet; on White Orpington, 1st Cock, 1st Cockerel, 1st and 2nd Hen, 1st, 2nd and 3rd Pullet; on Diamond Jubilee Orpington, 1st Cock, 1st and 2nd Hen, 1st Pullet; Spangled Orpington, 1st Cock, 1st Cockerel, 1st and 2nd Hen, 1st Pullet, R. C.

ROSE COMB SPANGLED ORPINGTON.

Cockerel. 1st Burbridge & Co.

LIGHT BRAHMA.

Cocks. 1st, 2nd and 3rd John Russell, East Oakland.

Hens. 1st, 2nd, 4th and 5th John Russell, 3rd H. H. Holland, Fresno.

Cockerel. 1st, 2nd, 3rd, 4th and 5th John Russell.

Pullet. 1st, 2nd, 4th and 5th John Russell, 3rd Florence Forbes.

Pens. 1st John Russell, 2nd and 3rd Miss F. Forbes.

BUFF WYANDOTES.

Cocks. 1st P. A. Robinson, Benicia, Cal.

Hen. 1st Jas. Sunderland, East Oakland.

Cockerels. 1st Jas. Sunderland, 2nd D. B. Naylor, Haywards, 3rd P. A. Robinson, 4th D. A. Naylor.

Pullets. 1st, 2nd and 3rd D. A. Naylor, 4th and 5th Jas. Sunderland.

SILVER SPANGLED HAMBURGS.

Cocks. 1st Malcom Lamond, Oakland, 2nd H. H. Holland.

Hens. 1st and 2nd Malcom Lamond, 3rd H. H. Holland.

Cockerel. 1st Malcom Lamond.

Pullets. 1st J. H. Crow, Oakland; 2nd, 3rd and 4th Malcom Lamond, 5th Mrs. A. Murphy, Oakland.

WHITE MINORCAS.

Pen. 1st Miss Forbes.

BLUE ANDALUSIAN.

Cock. 2nd H. H. Holland.

Cockerel. 1st Mrs. E. B. Newman, Santa Ana.

Hens. 1st H. H. Holland, 2nd and 3rd E. L. Andrews.

Santa Ana.

Pullets. 1st H. C. Bonafice, 2nd H. H. Holland, 3rd Mrs. E. B. Nooman.

Pens. 1st Big Tree Duck Ranch, Dimond, Cal.

BUFF COCHIN BANTAMS.

Malcom Lamond won 1st Cock, 1st Hen, 1st, 2nd, 3rd and 4th Cockerel, 1st and 2nd Pullets, 1st Pen; H. H. Holland won 3rd Pullet.

WHITE COCHIN BANTAMS.

1st Cock, 1st Hen, 1st Cockerel, 1st and 2nd Pullet, Santa Teresa Poultry Farm, Edenvale.

The Los Angeles Show

One of the most interesting and successful poultry shows in the history of Southern California is in progress in this city. More than one thousand chickens and ducks and turkeys and geese, all of royal blood, are on exhibition, and a magnificent show it is. There is almost every variety of bird represented from gobblers which weigh fifty pounds to the tiniest bantams that can be put in your coat pocket and carried about as pets. The entire collection is valued at between fifteen and sixteen thousand dollars. There are birds in plenty which are worth five dollars, and quite a number which will bring two hundred dollars, some even more.

G. I. Lytle is the largest exhibitor, as well as the largest breeder in the state of Minorcas, Leghorns, Plymouth Rocks and Wyandottes. He has 120 entries and his show occupies more than half of one end of the pavilion.

Burbridge & Co. have a fine show of valuable Orpingtons, white, buff, black spangle, and Diamond Jubilee, single and double combs. This company has thirty-two birds on exhibition.

W. A. Stewart has also thirty-two birds, representing Wyandottes, Partridge Cochins, Buff Orpingtons, some of which, although but a year old, weigh six and a half pounds.

George Albers has in his collection forty-four birds, all Black Minorcas. They are beautiful birds and attract a great deal of attention.

E. R. Holman, of Anaheim, has on exhibition thirteen beautiful Rhode Island Reds, which won first prize in this line, both here and at San Diego last year. The birds resemble in appearance of Buff Orpingtons.

Fred Espee has twenty-five Barred Plymouth Rocks, and they are fine. J. M. Wright of Pasadena is justly proud of his coop of twelve Black Langshans. Mrs. Fraunkhauser, of Santa Monica, makes a fine showing with nineteen Brown Leghorns. Dr. Salin, of Pasadena, is showing a choice lot of Buff Leghorns. Inglenook Poultry yard of Garvanza is represented by a full display of Blue Andalusians. H. M. McIntyre, of San Diego, has a fine showing of Buff Cochins.

W. W. Howard has a coop of White Leghorns, which he anticipates much profit from. Mrs. Cowan, of Santa Ana, has entered twenty-five Rhode Island Reds. Fred Lenz shows a large line of S. C. Brown Leghorns.

C. H. Young's coops of Silver Penciled Wyandottes attract much attention. T. Frank Anderson, who bought Mrs. A. Basley's splendid collection of White Plymouth Rocks, is represented by a fine collection of show birds.

Space, this week, will not permit a fuller of the merits of this splendid show. Suffice it to say the Plymouth Rocks have next to the largest representation, there being about 250 of all kinds. There are 300 Leghorns, 140 Minorcas, 100 Bantams, 100 Wyandottes, 50 Blue Andalusians, 25 beautiful Silver-Spangled Hamburgs, Light and Dark Brahmas, Langshans and all the other fancy breeds that scientific breeding has produced. The game chickens are well represented, for there are the beautiful Pitts, Indian, Buff Cochin and Brahmas. White Holland turkeys are the novelty, and the great Toulouse and Embden geese show that not much anti-fat is used around some poultry yards.

In the list of awards, which will appear next week, will be seen all the entries, which for lack of space are not published this week.

The display made by several poultry supply firms is very good.

Geo. R. Albers shows a complete line of incubators, brooders and poultry supplies. His improved Los Angeles incubator, with glass top, for chickens and ducks, which he has in operation hatching a lot of eggs, attracts a great deal of attention.

The West Coast Stock Food Co., of Pasadena, have a neat booth stocked with their four preparations. This is a comparatively new firm, but their Stock Food, Poultry Tonic, Lice Killer and Killamite remedies are all meeting with merited success.

W. E. Hyer and Co., of this city, show their new Sunset incubators, and also have a good display of Sharples Tubular Separators as a side line.

The Germain people show the Petaluma incubator, portable wire fence, the Church Chick Fountain, besides a full line of poultry supplies. The exhibit is in charge of Mr. Church and is very nicely gotten up. The Palmer Poultry Remedy Co. show a full line of their remedies, and away across the hall the Jubilee Incubator Co. of Oakland have a single machine on exhibition which has an interested crowd around it most of the time.

A new incubator was shown by W. B. Dean, who is a newcomer to this city. He is an old incubator builder, having been for years conected with the Des Moines Incubator Co. Mr. Dean claims his new machine, the "Pacific," to combine the best points of others he has built, it being stormproof. He will shortly open downtown quarters and push the sale of his machine.

HIS EYE WAS SOT.

"That reminds me of the old darkey whose mule suddenly died," said Secretary Hay, when questioned regarding the suggestion from France that the status quo on the Isthmus of Panama be restored in order that Colombia might ratify a canal treaty.

"The mule fell dead on the street and a number of men gathered around. One of them asked the darkey if he could be of any assistance to him in seeking to save the animal's life.

"'No, boss,' replied the negro, "it am no use to try now. The mule's eye am sot."

JUBILEE INCUBATORS

The "Business" Machines of the World
Use the Jubilee—There is every reason why you should and no reason why you should not.
We make them in sizes from 60-eggs to 1056-eggs capacity—Every one perfect. If you are interested in poultry for profit send for the Jubilee Catalogue No. 30.

JUBILEE INCUBATOR CO. OAKLAND, CAL.

ROUP and CHOLERA

First know what is wrong with your fowls before giving medicine. Some would tell you that there is no cholera in this country. Try a package of Palmer's Cholera Remedy in all cases except Diphtheratic Roup, and you will find it effective.

PALMER'S POULTRY POWDERS

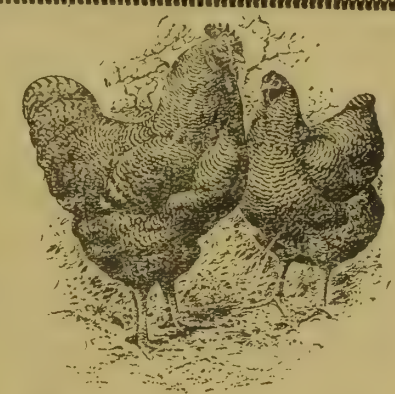
Trade Mark

We have what you've been looking for—a guaranteed cure for Roup and Cholera—something that cures in every case if used according to directions. Palmer's Poultry Powders—the only infallible remedy ever offered the public for Roup and Cholera. Manufactured in your own State by the

PALMER POULTRY POWDER CO.,

Henry Albers, Dis. Agt. 102 S. Spring St., Los Angeles, Cal.

50c and $1.00 Per Package



White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.

G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.

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Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

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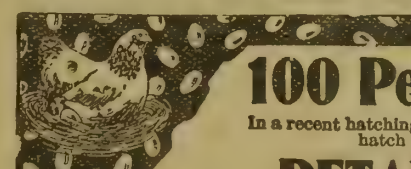
WHITE PLUME RANCH

T. FRANK ANDERSON,

SUCCESSOR TO

Mrs. A. Basley

Hollywood, Cal.



100 Per Cent. Hatched.

In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with

PETALUMA INCUBATORS.

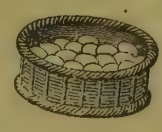
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.

For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.

MADE BY PETALUMA INCUBATOR CO. PETALUMA, CAL.

MIDLAND POULTRY FEED

Will make your fowls moult in one-half the time, which means they will lay that much sooner. "Laying fowls are paying fowls." You wlll not be disappointed at the results you get from feeding Midland Feed.



No. 4, Egg and Feather Producing Food

Is what you should feed your hens now, and the results you get will surprise you, for we know it will prove a paying investment. Our book, "The Science of Poultry Feeding," will tell you more about this feed. Send for it. It is FREE. Also

No. 1, Nursery Chick Food
No. 2, Growing Chick Food

We will be pleased to give you further information about this feed if you wish it. WRITE FOR PRICES.

The Only Reliable Balanced Ration for Poultry in the World.

These special foods are composed of the very best materials obtainable and as carefully and accurately mixed as it is possible to make them. They are a COMPLETE FOOD and will produce specific results, each for its purpose, and no other. We want you to become an established customer of ours. We want your trade, be it little or much. There is only one way we can secure it and that is by sending you material that will do what we claim for it.

The Midland Feed will cost you very little more than any good grain you now feed, and no more than you now expend for all the extras you must use in addition to your grain, and the results will be so far in excess of any previous experience you have had that you will readily acknowledge its value. What the poultry man must be able to count on to a certainty is RESULTS.

The following buy in Carload Lots and act as our distributors in their respective localities, supplying the dealers and consumers:

FREDERICK BROWN, San Jose, Cal.
KUTNER GOLDSTEIN CO., Fresno, Cal.
P. C. FREDERICKSON, Fruitvale, Cal.
J. T. STONE, Haywards, Cal.
LILLY, BORGARDUS & CO., Seattle, Wash.
PETALUMA ROCHDALE ASSN., Petaluma, Cal.
PHOENIX MILLING CO., Sacramento, Cal.
HENRY ALBERS, Los Angeles, Cal.
LUBBEN BROS., Alameda, Cal.
PORTLAND SEED CO., Portland, Ore.
SANTA ROSA ROCHDALE CO., Santa Rosa, Cal.
GEO. P. McNear, Petaluma, Cal.

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Main Office and Factory, Petaluma, Cal. Eastern Office and salesroom, Indianapolis, Indiana.
San Francisco Office and Salesroom, 33 Market Street.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

ORNAMENTATION OF STREETS AND HIGHWAYS.

In the ornamentation of streets and highways, by far the most important consideration, is the alignment of these thoroughfares, upon a broad and generous plan, with suitable shade trees, properly planted. It is, then, to this phase of the subject that I shall confine my remarks and as the keynote to success is co-operation, these remarks will apply more particularly to cities, towns, and the more thickly settled rural districts, though the argument will apply with equal force to the individual owner.

* * *

VALUE OF SHADE TREES.

Before entering upon a discussion of the ways and means to accomplish the best results, it is eminently proper that good and sufficient reasons be given for such planting; or, in other words, of what value are shade trees to a community?

There are at least four good reasons why we plant: 1st. For Ornament. 2nd. For Health. 3rd. For Comfort. 4th. For Protection. No particular specification is needed regarding the increased and increasing value of property, for this must necessarily be demonstrated in the consideration of the four points noted.

1st. Ornamentation.—That street trees are ornamental and that ornamentation pays in many ways, no one will deny, but it pays in dollars and cents. Beautifying a neighborhood is not a mere fad; it costs but little more to make it attractive than to leave it or to make it unsightly, and a well kept, well planted district will not only attract, but command residents desirable in every way; certainly those who are educated and refined. It is not mere sentiment that prompts the railroads to advertise the attractions along their lines; beauty to them represents cash. If people choose a line of travel because of its natural and acquired beauties, how much more eagerly will they seek such a place for a residence. Landscape beauty is capital. Again: not one of us would be satisfied to spend his days (or even nights) in a desert, though surrounded with the necessities of life in plenty. Our natures crave something better, and we ofttimes travel far seeking the most beautiful location obtainable.

* * *

2nd. Health.—Trees add greatly to the healthfulness of populous districts by cooling and purifying the air, the foliage evaporates large quantities of water from its surface and the reduction of temperature in this way is greatest during the driest and hottest weather. The foliage also absorbs impure and therefore harmful gases. Trees also promote circulation of air (due principally to unequal temperature).

* * *

3rd. Comfort.—Trees add materially to comfort, either in city or country, not alone to shade the passer-by, and the idler who rests beneath their branches, but in a climate like ours, with perpetual sunshine, they soften the glare and heat of the sun on sidewalks. They also permit many to sit out in the free air to read, even to eat and to sleep, thereby contributing not alone to comfort, but to health.

* * *

4th. Protection.—Everyone present will concede that street trees afford protection from both wind and sun, but as a protection against fire they are not so well known.

D. F. Sullivan, Chief of the San Francisco Fire Department, writes that shade trees on sidewalks are beneficial in checking the spread of fire. First, they are good as windbreaks, keeping sparks and cinders from nearby buildings. Second, they shield the houses, preventing them from catching fire from the heat. He tells of a recent fire in a stable where a single large tree prevented the destruction of a three-story flat adjoining. In this case there was considerable delay in getting water, so that it gained great headway.

Now we come to the most important point, that of obtaining uniform planting, or one kind of tree for each street. Most communities are planted with several sorts of trees to each block, of every conceivable size, color, form, and degree of desirability. Such planting looks as irrational as an orchard of all sorts of fruit trees hopelessly mixed; oranges, peaches, walnuts, persimmons, olives and pomegranates—no order, looking much as though the different seeds had been scattered by hand, except they are planted in rows. Prof. Waugh, in his work on landscape gardening, says such street planting reminds him of nine monstrously different buttons in a row down the front of a Prince Albert coat.

Wm. S. Lyon, in his "Gardening in California," says: "There is one feature in the planting of street trees that calls for special mention. This is the reprehensive practice of planting a jumble of sorts upon the same block. Not only is the effect as a whole bad, but the individual beauty of each is lost in the kaleidoscopic shifting of

(Continued on Page 476.)

Deciduous Trees — Citrus Trees — Ornamental Trees

FOR SEASON 1903-04

Our stock of all varieties of trees is large. Year by year we have tried to anticipate a large and growing business, and this season we feel confident that planters will find our stock unusually complete and far above the average in grade and appearance.

Winter Bartlett Pears

Have you heard about them? Of all pears of recent introduction, this pear takes the lead. It does not ripen until November, and will keep two months after picking. We have a good stock but orders should be booked early.

Plums

Plums ought to be more extensively planted. Pitted dried plums are always a scarce article on the market and the demands exceeds the supply.

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This is a great leader. The fruit is larger, sweeter, and ripens fully three weeks earlier than the French prune. No danger of having your fruit damaged by rains when drying if you plant the Sugar Prune.

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Apricots sold well this year. California has a strong hold on cots, being the only state in the union producing them. We grow all the standard varieties—Blenheim, Royal, Routier Peach. The Tilton, a new introduction, and highly esteemed in Kings county, is worthy of trial.

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The canners want more clings, couldn't get enough this year of Tuscan, Phillips, Orange and McDevitts. You can make no mistake in planting clings if there is a cannery in your vicinity.

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Canners never get enough Foster peaches. They can well, have a fine color, and most delicious flavor. Better look into their merits.

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Cherries are in great demand now. Fruit on the trees sold for from four to five cents per pound this season. Many coast counties are wonderfully well adapted for cnerries.

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When a man originates a good thing, there are always imitators who claim to have something just as good. This is true in the tree business. The only difference is you cannot eat fig trees and tell what they are, neither can you decide with the closest scrutiny whether what you are buying is as represented. When you buy trees bear in mind that it is not like buying groceries or hardware—you must wait three years before you know your fate.

Remember we have the only genuine Calimyrna orchard in bearing in the United States. When you buy Calimyrna Fig Trees you want to be sure you are getting the genuine article. You know that trees, the identity of which is doubtful, are expensive at any price.

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You may satisfy yourself as to the merits of these Calimyrna dried figs by sending to us for a sample box, which is sent to any address post paid on receipt of 20 cents.

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The book entitled, "The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, is full of valuable information and will be found very interesting and helpful to those who are thinking of planting figs or who are in doubt as to what to plant for a profitable crop. Price 25 cents post paid.

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Until you have seen our catalogue you do not realize what a helpful book a catalogue is to tree planters. We have been told a good many times that this is the most complete catalogue in many ways that has ever been printed in the West. It is unlike any other in that it is more carefully compiled, lists more trees, is easier to consult, and contains more practical information. We shall be pleased to answer any questions of intending planters.

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The San Diego Institute...

The San Diego Farmers' Institute has passed into history as one of the most successful meetings held in Southern California this year. The attendance was large and the interest unabated from the first session to the closing banquet. The programme included addresses and papers by many of the most distinguished authorities, on the subjects discussed, in this part of the state.

Judge Haines opened the convention with an address of welcome, the central point of which was the importance and the dignity of the work of the Farmers' Institutes. His discussion of the relative merits of organized labor and organized capital was an earnest plea for unified efforts and action on the part of the farmers of this land.

"Associated capital and organized labor," said he, "have their fields of activity in the cities and in the mining and manufacturing centers. These combinations are the offspring of civilization, therefore, inevitable, and on the whole, beneficient. Even their struggles with each other have, as I venture to think, their proper place in the large economy of modern society.

"What then is there for the scattered and unorganized agricultural population? Is it helpless and to be perpetually ground between the upper and nether economic millstones? By no manner of means. It has the soil to fall back upon. Between the contending and, at the same time, leagued forces of associated capital and organized labor, the great masses of people who live by tilling the soil in this wide extending country hold, after all, the balance of power; they form the great bulk of consumers; they are, in large measure, the final employers both of the works of the capitalist and the labor of the operative: 'It is the farmers,' says Secretary Wilson, 'who have paid the foreign bond holders;' and they have, aside from political action, in which also they have their potency, one unfailing resource against undue exactions, whether by associated capital or organized labor, or both."

* * *

The Olive.—Dr. W. W. Sherman, of Fresno, is credited with presenting one of the most interesting papers of the convention on the olive. His discussion embraced its varieties, care and use. He said in part:

"During the past fifteen years many olive trees have been planted without any consideration, as to variety and soil. The real causes of failure and discouragement can be traced to three reasons, namely: improper selection of variety and soils, lack of tillage and irrigation, commercial conditions. Much the same thing obtains with the olive as with the resistant vine, in order to be successful we must choose a tree suited to the soil in which it is to be planted. We should be acquainted with local climatic conditions, and before planting our trees we should know whether the conditions of soil and climate is favorable to the olive and what particular variety it is most favorable to. The tree should be selected with care. This is the next consideration to that of soil and climate. The lack of success in the past and the fact that so many planted, only to fail, and pull up their trees a few years afterward, should prove a valuable warning to others who may follow.

Proceeding to the consideration of varieties, which is most important, and where in so many groves have met failure, Dr. Sherman said.

"From the seventy varieties of olives, about ten are mostly represented in the orchards of this state, these are, after careful trial and observation reduced to three favorites, namely, the Mission, the Nevadillo Blanco and the Manzanillo. The Mission seems to be the first choice, probably because it was first introduced and has stood the test of time. It embraces several sub-varieties, the most common, however, is the broad-leafed form, but all are of the same type, varying somewhat in size only. In the olive growing sections from Chico to San Diego, this variety runs about 100-101-106 to the pound, those grown in Southern California being a little the largest.

"The Mission is said to grow smallest in the bay regions, being 145 to the pound. It is said that the largest Missions grown in Southern California contain the least pit waste, the average being 15 per cent, the next in order being those from the San Joaquin valley with 16.4 per cent, the coast range 16.8 per cent and Northern California 17 per cent. The foothills fruit runs 19.2 per cent against 20.8 per cent in the bay regions fruit. This is interesting as evidence of soil effects, and in time will no doubt be brought to a scientific and reliable statement, and used as a guide in the selection of varieties suited best to the various soils and localities."

Pruning, irrigation and picking were also gone into exhaustively. Pruning should be done annually, regularly and systematically, so as to give the tree the benefit of symmetry and new growth. A moderate amount of water must be used, but not to excess, for the olive is sensitive to too much water.

The crop should be gathered before danger of frost, and but little attention paid to the color of the fruit on the trees. An olive may be ripe while its color is quite green, and with us the dark color does not seem to develop until the nights get quite cool. When we can pick the olive from the tree and squeeze the pit out with our fingers, then it may be picked whether for oil or for pickling. It is best for oil when gathered early or before it has fully matured and colored. The green and black fruit is all treated alike when used for making oil, but if for pickling they are hand graded for color, the green, red and black, being separated and processed each to itself.

* * *

Mrs. M. E. Sherman's topic was "Raisin Grapes and Raisers." Her effort was well received and produced a pleasing effect on her auditors. She brought out the many sides of growing, protecting and marketing the fruit which were suggestive of improved methods in handling raisins. Mr. Culbertson followed with a discussion in which he commended the industry as the most profitable of any, since the Raisin Growers' Association had been formed. Green manuring for the production of extra humus, and chain pruning for the prevention of colure or dropping, and the proper selection of cuttings, were some of the points touched upon.

Another interesting paper was that read by Mrs. Carrie Williams, on silk culture in California, showing that much unused labor could be profitably applied to raising silk worms, eggs and cocoons. "Why should we send out $50,000,000 for a product that can be turned out on our own soil? Should reeled silk, which is really a manufactured article, be admitted free of duty to increase the profits of the silk trust?"

F. Austin read an interesting paper on the results of the work of Scuttellista in San Diego county. This paper emphasized the good work this insect is doing on red and black scale. But as this subject has been so generally discussed in the Cultivator, it is not necessary to go into extensive detail at this time.

Dr. Reed of Riverside read a paper on "New Departure in Citrus Culture," which was well received.

Mr. Ernest Braunton discussed "Street Ornamentation," and urged the planting of one kind of tree for each street. His paper appears this week.

"Fighting Scale Insects and Red Spider," was the topic of a very elaborate article on spraying and fumigating from a practical standpoint, by C. A. Day, of Pasadena.

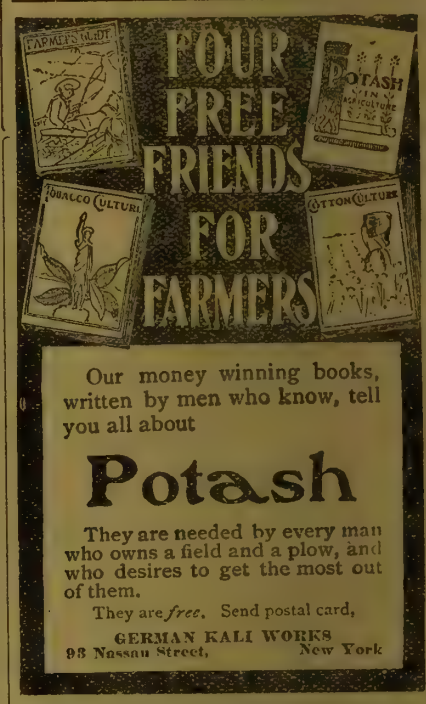
C. C. Teague, of Santa Paula, made an address on the tent system of curing lemons, which has revolutionized the method of handling lemons.

Frederick Kahles, of Montecito, a recognized authority on spraying, made a highly interesting talk.

Dwight Griswold, of Tropico, presented a paper on Strawberry Culture, which will appear in the Cultivator soon.

One of the papers anxiously looked for, because of the high character of the gentleman who was to read it, was the one on experiment stations, by Prof. J. W. Mills. Prof. Mills was called away from the meeting, much to the regret of the convention. President Gates, of Pomona, made a strong address, "Keeping the Boys at Home." The exercises closed with a banquet, which was a pleasant affair. In closing this report it is only just to the people of San Diego to say that the success of the Institute was in the main due to the committee having it in charge.

The following committees were appointed: Resolutions, J. W. Mills, Ontario; C. C. Teague, Santa Paula; R. C. Allen, Bonita. Farmers' Clubs and Seaside Institutes, H. Culbertson, El Cajon; F. Kahles, Santa Barbara; D. Griswold, Tropico. Plans for the Year, H. Copeland, Chula Vista; F. Austin, Escondido; E. N. Reed, Ioamosa; C. C. Chapman, Fullerton; J. Wasson, Pomona.



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COMING HOME AT NIGHT.

When the shades of night are falling
And the shadows gather fast,
I cease me from my labor,
For the day is done and past.

And I hie me from the city,
With its dust and heat and noise,
To my home beside the ocean,
And my wife and baby boys.

My troubles oft are many,
But they quickly fade away
When I reach my little cottage
At the closing of the day.

I hear the little footsteps
That come pattering o'er the floor,
And the little hands that try to reach
The knob upon the door.

In my arms I quickly gather
My bonny little men;
Glad to welcome home their father
When he comes from work again.

While their mother smiles a greeting
From the kitchen warm and bright;
My home is like a heaven
When I get me back at night.

Loving faces all around me
And the fire is burning bright;
Oh, my cottage is a castle
With the coming of the night.
—Duncan L. Smith.

THE BUCCANEER.

The term "buccaneer" is assocated in most people's minds with that of "pirate." The buccaneers were at first privateers authorized to prey on Spanish commerce, but afterward degenerated into sea robbers. On one of these buccaneer ships more than a century ago among the crew was a woman dressed in man's clothes. She had worn this attire for several years as a soldier and taken part in a number of battles. When peace came she concluded to try the sea, and, shipping for the West Indies, joined the buccaneers. The secret of her sex was well preserved and not a person knew that she was a woman.

Anne Prestwich or Peter Prestwich as she was known on the buccaneer, fell desperately in love with one of the sailors, Percival Whitford, a large, blue eyed, flaxen haired, devil may care fellow, who, though he treated Anne in as friendly a manner as any one else, not knowing that she was a woman, had no thought of the tender passion.

Anne concealed her love, not daring to reveal it with a confession of her sex for fear that Percy would be repelled by the knowledge. For months she worshipped him in secret. Then an opportunity arose for revealing her love under the most favorable circumstances. Percy became involved in a quarrel with a sailor named Millican, and a challenge passed. Whitford and Milliken were in different watches, and the duel could not take place until after eight bells in the afternoon. Shortly after dinner a number of the crew were lolling on the forecastle, among them Anne Prestwich and Millikin.

"You'll make short work of the blue eyed fellow," remarked one of the men to Millikin.

"If he does," said Anne, "it'll be by foul means."

"What!" cried Millikin, starting up, while the others looked thunderstruck.

"Didn't you hear me?" replied Anne. "Coward don't fight fair. They always manage to get some advantage."

"You dare say this to me!" shouted Millikin, standing on his feet and putting his hand to his knife.

"I say nothing except what's true."

Millikin made a rush for Anne, but those present stood between.

"I'll have your life for this!" cried Millikin. "As soon as I get through with Withford I'll attend to you."

"Why wait for that?" asked Anne coolly. "This is as good a time as any, and you'll have to wait until eight bells for Whitford."

"Agreed. I'll fight you now. Draw!"

"I have choice of weapons, and I chose swords," said Anne.

A ring was formed, a couple of ordinary swords were brought up from below, and the two opponents set to work. Anne, the ex-soldier, who had been drilled in sword exercise in barracks, from the first showed her superiority to Millikin, whose only action had been in action with the cutlass. She received a few scratches, which her opponent intended for mortal wounds, and, watching her opportunity, ran him through the heart. Millikin dropped dead, and Anne, wiping her sword on her trousers, turned and went down the companionway.

When Whitford came off watch he had been told that there was no quarrel on his hands since Peter Prestwich had removed his antagonist. He went straight to Anne, whom he found in the forecastle.

"Pete," he said, "what do you mean by taking my quarrel?"

"I had as good a right to fight him as you."

"But they say you insulted him without cause. Then you proceeded to fight him before I had my turn with him."

"Yes; that's true."

"Well, it's plain that you stepped in between him and me. Millikin never injured you. Tell me why you have interfered to shield me."

Anne turned away, but there was something in the glance she gave him that sent a thrill through him, though he did not know why.

The next day the buccaneer touched port at one of the coast towns, and when the first batch of short leaves were granted it happened that Peter Prestwich and Percy Whitford were among the number who went ashore. When they reached the quay Anne went off by herself, while the others sought the nearest saloon. Later they drifted into the San Luis tavern, and while they were standing at the bar a waiter stepped up to Percy Whitford and whispered that a lady wished to see him in a parlor upstairs. Not aware that he knew any woman in the place, he hesitated a moment, then without speaking of his going, sauntered out.

When he entered the room there was but one woman in it. A trim figure stood before the window robed in a plain but neat gown, cut in the fashion of the times, while on the head was a cap, which entirely concealed the black hair. Percy advanced, and as he did so, the woman turned, but while his face was in the full light of the window hers was not. There was something there familiar in the rather attractive face. Percy was sure he knew the girl, but could not place her.

"Lassie," he said, "you've got the better of me. What? Pete Prestwich in woman's clothes?"

He started back. Something came rushing over him like the moving of a great flood.

"Not a man; a woman," said Anne, looking down at the floor.

The revelation to Percy that a woman had stood between him and an even chance between life and death resulted in a complete conquest. They left the buccaneer service, married and lived the life of planters.—Ex.

HOW TO PRESS SLEEVES.

In pressing sleeves, which is the bane of the ameteur's life, keep a wooden rolling pin for that purpose alone. Insert in the sleeves, and the pressing of seams and wrists also is as easily done as though it were a flat surface. Cover pin with flannel. Keep a heavy piece of flannel to lay over the ironing board when pressing wool goods. This prevents the shiny spots so objectionable in a finished garment.

PEOPLE WHO FORGET.

A few forenoons ago a perspiring red-faced man, at the head of a prespiring, red-faced, fat family, consisting of a wife and four little girls with amazingly starchy skirts and with pigtails pulled so taut that they didn't appear to be able to wink their eyes, started through a gate at the Baltimore & Ohio station leading to an accommodation train that was about to leave for Maryland way stations, says the Washington Star.

"Tickets," said the gateman, unenthusiatically, as the fat father of the fat family started to hurl himself through the gate.

"Huh?" said the father of the family, a half sheepish, half chopfallen expression crossing his dripping countenance.

"Tickets," repeated the gateman, yawning dismally.

"B'jing," exclaimed the fat man, dismally, "I forgot the tickets. Clean forgot to buy 'em. Say, can't you let us through and I'll pay the conductor in cash for our rides—hey?"

"Don't block the line, please. Have your tickets ready!"

The fat man squirmed back out of the line, encountering as he did so the collective glares of the pushing people behind him, and the much more intensified glare of his wife.

"Forgot to get the tickets, Rosanna," said the fat man, looking foolish, to his spouse. "Get 'em in half a second, though—be right back. Wait right here with the children."

And he dashed through the swinging doors at a lumbering waddle, while his wife dropped all of the hand baggage with a thump and the four highly starched little girls picked out grips and suit cases upon which to squat until their parent returned with the tickets.

He returned to his family in about four minutes, holding the tickets in his left hand, and agonizedly mopped his face with the handkerchief in his right. His fat face was contracted into an expression of acute misery.

"My dear girl," he said, edging apologetically alongside his wife, "it's a mighty good thing I stopped to take a glass of water at the cooler inside just now—a mighty good thing, indeed."

"Well, what is it now?" she asked him, in a tone filled with the prophecy of trouble.

"Now, don't be annoyed, my dear Rosanna," said the fat man, more miserable than ever, "but I fear that we shall be slightly delayed—but only until the next train, you know. There's another one going in only two hours and forty-five minutes, and I'll be back long before that."

"Back from where?" she asked him, acridly.

"Now, please, I beg of you, do not make things worse than they are by an exhibition of temper, by dear Rosanna," moaned the fat man, hopelessly, "but my taking that drink of water at the cooler inside just now reminded me that I left the cold water turned on in the kitchen sink when I left the house. Just you wait with the children in the waiting room—I'll buy you some papers and magazines—and—lets' see—I can get out to Tenleytown and back in an hour and a half, say, and that'll give me plenty of time for the next train. I couldn't be comfortable, you know, away for two weeks with that cold water running full blast. The durned sink might overflow and it 'ud cost me all the money I could make for the next ten years to pay for the damage. Now, don't worry," and the fat man darted out of the station at a waddling lope, while the wife of his bosom gathered up the traps once more and led the way to the waiting room, the four little starched girls trooping gloomily after her.

"Notice that?" said the gateman, dismally, slamming the gate leading to the accommodation train after the last belated passenger had cantered through.

"That's the way they're drifting along all the time—the forgetters, I call 'em. Another one of 'em just like that fat old party came catapaulting toward this gate only an hour or so ago, with his wife all but hanging onto his ccattails. He was racing for the gate at such a clip that she could parely keep up with him without maintaining a strong clutch on his apparel. I picked him out instantly as one of the forgetters, and when he handed me his tickets to punch I noticed that his tickets didn't have the 'B' baggage punch mark in them.

"'You've checked your baggage, sir, I suppose?' said I—knowing, of course, that he hadn't.

"'Why, no, I havn't!" he sung out, giving his thigh a whack. 'Say, it's a good thing you reminded me of that.'

"'Did you wait at the house for the transfer man to call for the baggage. James?' his panting little wife inquired of him in a tone of suspense.

"'Well, no, I did not!' he exclaim-

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E. W GILLETT, G. P. A. T. C. PECK, A. G. P. A.

ed again. 'Was that the arrangment? I thought you'd attend to all that.'

"'Now, don't you remember,' she plaintively said to him, 'that when I came down town ahead of you to do that little shopping that I had to do, and left you to close up the house, the last thing I said to you was: "Now, James, be sure to wait here until the transfer man comes for the trunks—he promised to be at the flat at 10 o'clock, prompt—don't you remember that that was the very last thing that I said to you, James?'

"'No, I don't remember any such a thing," James brazened it out. 'I thought you'd at least have the consideration to attend to the trunks, instead of hiking downtown to get a dinky little veil, when you've got eleven million veils already—and here we are with the train due to start in four minutes, and there are our trunks locked up in the bedroom of a house forty-five minutes' ride away on the fiery, untamed underground and overhead trolley cars—oh, it's all off, that's what it is—there's no use in talking about it at all, it's all off!' and he galloped toward the exit, with his tired-looking little wife hanging onto one of his arms with both hands and being jolted over the boards and up the steps like a rag doll in the hands of a pickaninny. They havn't got back yet, and I guess by this time James is hurling the things out of the trunks and jawingly announcing that the trip is still all off and that it's going to remain all off."

RECIPES

Eat Little, but Have That Little Good

Evening Lunch—A delightful lunch can be served at night with oyster patties, bread and butter, and chicken salid, sherbet, cake, coffee and nuts.

Macaroons—Half a pound of almonds, blanched, dried and pounded to a paste, with one teaspoonful of rose water. Beat together with whites of three eggs and half a cupful of powdered sugar, adding the sugar by the teaspoonful. Add half a teaspoonful of almond essence, then add the pounded almonds, and, if too soft to be shaped, add a teaspoonful of flour. Roll with wet hands into balls the size of walnuts, flatten them slightly, place some distance apart on buttered paper and bake slowly.

Iced Fruits—Dip sections of oranges or selected whole small fruit, such as cherries, in the slightly beaten white of egg, roll in fine granulated sugar. Dry and serve very cold. If oranges are used divide carefully and remove the tough membrane and seeds.

LAUNDRY HINTS.

By most housewives the ironing of table-linen is a much-dreaded task, but by using the following plan it may become a real pleasure: We all realize how easily linen is drawn out of shape when wet, and how hard it is to regain if dried in that condition. All this trouble and exertion of pulling and stretching may be avoided, if when the table-cloths are being hung upon the line the selvages are folded evenly together and pinned to the line, corners first, then the sag. The edges must be stretched gently in place, and held with pins not more than twelve or fifteen inches apart. If pins and line are scarce, the napkins may be hung over the table-cloth, allowing the same service for both. Shake out all unnecessary folds and wrinkles that may remain. When possible, leave out until dampened by dew; if not, sprinkle, and fold in the usual manner. Let lay at least an hour or so, then shake out, and iron single. Begin at a corner. Iron lengthways, then across, keeping the linen squared. This is the secret of success. Turpentine in the starch produces gloss.—December Woman's Home Companion.

ORNAMENTATION OF STREETS.

(Continued from page 47.)

form and color, that only serves to confuse and bewilder the passerby."

Little can be done toward uniform planting without zealous and well directed co-operation on the part of all interested. There must be unity and intelligence of plan, and the work should be carried on by those necessary organizations which "do not presume to tell the community how it should spend its money, but only how to get, with efficiency, the greatest amount of sightliness for its money." It is of the highest importance that a plan be outlined on which people of diverse tastes and interests can either agree or effect a compromise. It will not be impossible to find a tree upon which all will agree, for the vast majority of people desire above all things that their neighborhood should be attractive and will yield somewhat in their opinion in order to obtain desirable results. We must learn to sacrifice some things in order to get others of different tastes to co-operate with us. It is best, perhaps, after a thorough discussion of the merits of the different trees, to put the selection of one for each street to a vote and let the majority rule, not forgetting that this is a matter which concerns the general public more than the individual.

* * *

PREPARATION.

One of the greatest mistakes made is the lack of preparation. All holes for trees, no matter in what soil or what the size of the tree, should be dug from three to four feet deep and of the same diameter. Fill this hole with the best soil to be had, putting the very best at the bottom, below the roots. The tree, finding better food below than above, will develop a deep root system and you will not then find so many dying trees nor so many heaved and broken sidewalks.

In choosing your stock get free-rooted and vigorous trees, not stunted ones. Better plant a thrifty one six inches high, than one as many feet whose roots have been confined for two or three years in a pot or can.

* * *

WHAT TO PLANT.

As a rule, too many trees to each lot are planted. Three trees on a fifty-foot lot are plenty, and the center one should be taken out after a few years. The points to be considered in the choice of a tree are about six in number, as follows: (1) General appearance, (2) Drought resistance, (3) Cleanliness, (4) Amount of care, (5) Rapidity of growth, (6) Root system.

In some places it is desirable to have deciduous trees, and the argument in their favor consists of the fact that they allow a maximum of sunshine in winter and give a maximum of shade during the summer. But in California we can always get plenty of sunshine, and unless the location is such that too much mud or dampness will be produced, I prefer evergreens.

When all nature is gay and everyone has cause to rejoice; when the hills and vales are covered with wild flowers and the air is laden with perfume from the orange groves; while the palm and banana are unfolding their wondrous leaf growths, we are rudely awakened from our pleasant contemplation of the beauties of nature by the sight of the cheerless leafless deciduous tree, forbidding, inhospitable, the very picture of desolation, totally at variance with the beauty everywhere expanding.

On a warm, sunny day in winter, when we look forth on waving fields of grain, or citrus groves weighed down with fruit, a leafless tree looks to me nearly as much out of place as a banana grove in Minnesota or the Dakotas.

The word evergreen is not meant to cover conifers or bearing trees alone, as the word is used in the east, but just what Webster says it means; any tree which retains its leaves throughout the year. Conifers, by the way, are unfitted for roadside planting except on avenues of unusual width, where 20 to 30 feet may be allowed for them, either along each side or through the center. Allow me again to quote from "Gardening in California." The author says: "Conifers are frequently used for street planting, but as language is not strong enough to condemn the impropriety of their use for this purpose no further attention is accorded them here."

"Public convenience demands the removal of all lower branches for a height of eight or ten feet of trees that align a sidewalk or public highway. As the exquisite beauty of most conifers depends entirely upon the integrity of the lower limbs, the impropriety of planting any tree subject to these requirements becomes apparent."

The same may be said of all cone bearers and many others upon private premises. Trees of pyramidal growth should be allowed the whole of their natural support.

GO TO GARDENA

Where the alfalfa grows so luxuriantly, giving from 6 to 8 cuttings per year, and producing when fed to cows a superior product of milk and butter—the secret — there being no alkali to detract from the purity of the milk, as demonstrated by the noted Strawberry Brand of Butter made by Mr. Davis of Gardena. The success of our Chicken Ranches depends upon having green alfalfa as a food product in the production of eggs at a time of the year when the dry ranch farmer has no green feed to make the hens lay. Our small alfalfa, dairy and chicken ranches are making good livings.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset with bearing fruit trees. Berries, one acre of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 16 ACRES, $7,700.

A profitable farm with 6-room house, 2 large barns, chicken houses and corrals. Good bearing apple orchard, interset with Loganberries; 9 acres set out in young walnuts; ½ acre peaches; ½ acre raspberries; ½ acre strawberries; 1 acre rhubarb; 1 acre young vineyard; 2½ acres in alfalfa, and 3 acres to be seeded to alfalfa.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, seeas, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 29 ACRES, $12,000.

One-half mile frow two electric car lines Seven-room honse, barn, corrals, pasture, 17 acres alfalfa, 4 acres of strawberries, family orchard (all fenced) with a good pumping plant.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house snd barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

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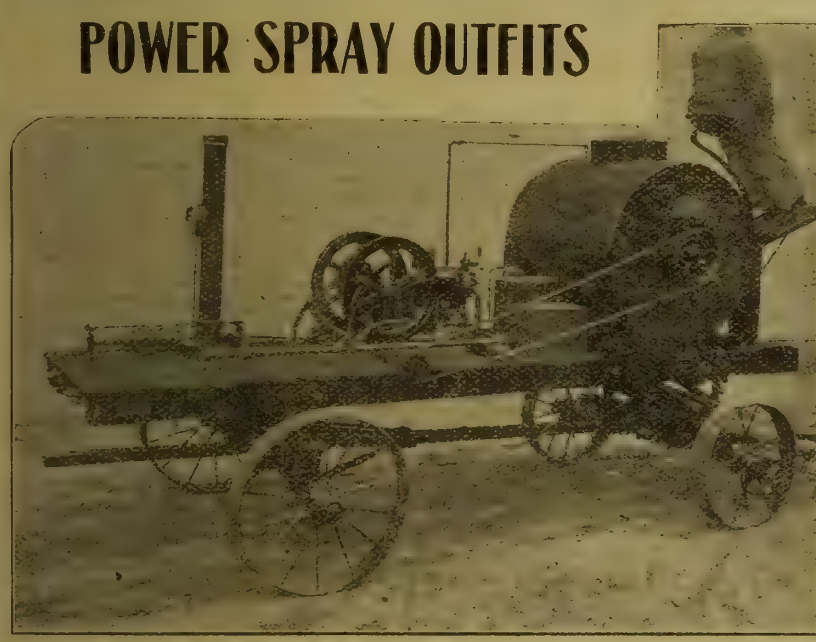

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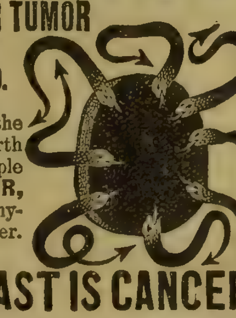

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It does not pain until almost past cure, and if neglected it ALWAYS poisons the deep glands in armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. BE SURE TO GET OUR 120-PAGE BOOK, sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.

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515½ S. MAIN STREET, LOS ANGELES, CAL.

PLEASE SEND THIS TO SOME ONE WITH CANCER.

Los Angeles Markets.

Los Angeles, Dec. 10, 1903.

There is a firmer tone on almost everything in the market. The absence of rain is having a tendency to strengthen all lines of vegetables. Butter and eggs show no decline and in fact there is likely to be an advance unless rain comes soon.

Butter.

B. of T. Creamery, 2lb roll		65
So. California, dairy do	.60	62½
Cooking	.45	30
Cold Storage	.50	55

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	.16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.38	.40
Fresh Eastern	.34	.36
Store, case count	.30	.33

Potatoes.

River, per cwt		-1.25
Salinas, do	1.70	1.60
Local, do	1.00	1.25
Sweet potatoes	1.50	1.75

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

NUTS.

Almonds, paper shell		14
Almonds, soft shell	.10	12
Walnuts, soft shell	.14	14½
Walnuts, hard shells	.13½	14
Peanuts, eastern	6	7
Peanuts, California	5	6

Vegetables; Mixed.

Onions, yellow, per cwt		1.60
Beets, per 100 lbs		.90
Cabbage, per 100 lbs		1.00
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chilies, green, per lb		.04
Caulinower	.40	.50
Celery, per doz.	40	.50
Green Peas	3	.04
String Beans		.03
Lettuce, per sack	.25	
Tomatoes, 30 lb box	.40	.50
Black figs, 20 lb box		1.00

Fruits; Fresh.

Strawberries, box, fancy	.08	.10
Pears Winter Nellas		1.50
Limes, per 100	.90	1.25
Navel Oranges per box	1.50	2.50
Northern apples, 40 lbs	.75	1.25
Four tier Belleflower		1.50
Four half-tier Belleflower		1.00
Guavas	.04	.05

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08

Poultry.

Spring Chickens, per lb	.17	.20
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb.	.20	.22
Turkeys, cold storage	.22	.23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	**4 00**	**5 00**

Hay and Grain.

Wheat Hay		13.50
Barley Hay		14.00
Alfalfa		13.50
Corn	1.18	1.25
Barley		1.05
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.20
Bran		1.20
Feed Corn Meal		1.40
Middlings		1.45
Cracked Corn		1.45
Oil Cake Meal	1.65	1.75
Chicken Wheat	1.50	1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, Dec. 9, 1903.

The general tone of the market has been easy for the past few days.

BUTTER—Per lb:

Creamery, extras	28	@29
Creamery, good to fancy	25	@27
Dairy, extras,	23	@24
Dairy, choice	21	@22
Store	18	@20
California, storage	24	@27
Eastern Creamery	23	@25

Eggs and Poultry.

The market on eggs is also somewhat sluggish.

EGGS—Per doz:

Ranch, selected large	52	@52½
Ranch, good to choice	45	@50
Store	Nominal	
California storage	28	@32½
Eastern	25	@30

Cheese is quiet at former prices.

Sharp depreciations in prices for poultry and game were effective today as a result of the closing of the restaurants and eating houses and the respective markets ruled decidedly easy, with a strong downward tendency apparent.

POULTRY—Old roosters, per doz., $4.50@5; young roosters, $4.50@5.50; fryers, $4.50@5; broilers, large, $4.@4.50; small, $3@4; hens, small, $4.50@5; large, $5@6; ducks, per doz., old, $5@6; young, $6@7; live turkeys, per lb., 20@23c; dressed turkeys, per lb., 25@27c, geese, per pair, $1.75@2; goslings, $2@2.25; pigeons, per doz., old, $1@1.25; squabs, $2@$2.25.

Fruits and Vegetables.

The effect of the closing of many of the leading restaurants was most keenly felt in yesterday's business in most kinds of fruits, and the market as a whole was one of marked easiness, with values more or less nominal.

DECIDUOUS FRUITS—Apples, per box, common, 40@65c; choice to fancy, 75@$1; extras, $1.25@1.50; Spitzenbergs, $1.75@2; Lady apples, $1.25@2.

Pears—Per box, Winter Nellis, $1.50@2.

Pomegranates—Per box, $1.25@1.50.

Persimmons—Per box, 50c@$1.

Quinces—Per box, nominal.

Table Grapes—Per small box, 40@60; crate, 60@85c; large box, $1@1.50.

BERRIES—Per chest; Strawberries, Longworth, $8@12; large varieties, $3@4, as to quality; raspberries, $5@7; cranberries, per bbl., Eastern, $11@12; Oregon, per box, $2.50@$3.50.

CITRUS FRUITS—Per box: Oranges, new crop navels, $1.50@2.50; seedlings, 75c@$1.50, Late Valencias, nominal; lemons, $1@2.50; extra, $3; grape fruit, $1.50@2.50; tangerines, $1@1.50; Japanese Mandarins, $1.25@1.75; limes, $4.@4.50.

The potato market is dull and trading tame.

VEGETABLES—Tomatoes, per box, 40@65c; do, southern, per crate, 50@65c; green peppers, per box, $1@1.25; string beans, southern, per lb., 2@4c; wax, 2@4c; Lima, per lb., ——, green peas, southern, per lb., 3@5c; egg plant, southern, per lb., 10@12½c; southern summer squash, per box, 40@65c; cucumbers, per box, 75@85c; mushrooms, per lb., 10@25c; garlic, per lb., 6@8c; dry ogra, per lb., 12½c; marrowfat and Hubbard squash, jobbing at ½@¾c per lb.

ONIONS—Yellow, per ctl., $1@1.20.

POTATOES—Per ctl.: River Burbanks, 75c@85c.; Early Rose, nominal; River Reds, 60@75c; Salinas Burbanks, $1.25@1.50; Oregon Burbanks, 85c@$1.10; sweet potatoes, $1@$1.15.

Dried Fruits, Nuts, Etc.

Spot trading in all lines of Dried Fruits is very slow and confined principally to small jobbing wants from local consuming channels.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 4½@6c; Sun Dried, 3¼@4c.

Apricots—Royal, fancy, 9@10c, choice, 7½c@8½c; Moorparks, choice, 9½@12c.

Peaches—Choice, 5¼@6c; fancy, 6¼@7c; peeled, in bxs, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9c.

Plums—Pitted, 6¾9c; unpitted, 1@1½c.

Prunes—Four sizes, 60s to 100s, 2¾@3c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5½c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1903 crop, f. o. b. at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.35; Two-Crown London Layers, $1.25; Muscatels, Four-Crown Standard, loose, 6½c per lb; do, Three-Crown, 5⅝c; do, Two-Crown, 5¼c; Seedless Muscatels, 4¼c; Seedless Muscatels, floated, 4½c; Seedless Standard Sultanas, 4¼c; Thompson Seedless, Standard Sultanas, lencias, Standards, 4¼c; do, Pacifics, 3⅝c; Orientals, 2¾c; Malagas, Three-Crown, 5⅝c; do, Two-Crown, 5c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz, per lb, 8c; choice, 7⅝c; fancy, 12 oz, per pkg, 6⅝c.

NUTS—Per lb: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Peanuts, Eastern, 6@6½c; California, Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shell, No. 1, 12@13c; do, No. 2, 10@11c.

HONEY—New Comb, per lb, White, 12@14c; Amber, 10@12c; Extracted Water White, 5½c@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

Beans.

Market fluctuations, generally in the line of improved values, were noted in prices for most descriptions of Beans this week and operators reported a moderately active market at the revised figures.

BEANS—Prices per ctl: Large White, $2.35@2.65; small, do, $2.90@3.10; Pea, $3@3.10, Lima, $3; Red, $3@3.15; Pink, $2.40@2.65; Bayo, $2.15@2.25; Blackeyes, $2@2.25; Red Kidneys, $4.25@4.50.

DRIED PEAS—Green, $2.50; Niles, $2.75.

Live Stock.

CATTLE—No. 1 Native Steers, 8@8½c: second quality, 7½@8c; thin Steers, 6½@7c; No. 1 Cows and Heifers, 6½c; second quality, 5½@6c; thin Cows and Heifers. 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5⅜@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

FRESH MEAT.

BEEF—Per lb: No. 1 Steers, 7@7¼c; do, second quality, 6½@6¾c; No. 1 heavy, 7@7¼c; thin, 5@5½c; No. 1 Cows and Heifers, 5½@6c; second quality, 5½@6c; thin, 3½@4½c

VEAL—Per lb: Heavy, 7@7½c; medium, 7½@8c; light, 8½@9½c; poor Calves, 6@7c.

MUTTON—Per lb: Light Wethers, 8@8½c; do, Ewes, 7½@8c; heavy Wethers, 7½@8c; Ewes, 6½@7c.

SPRING LAMBS—Per lb, 8½@9½c.

DRESSED HOGS—Per lb, 8@8½c.

Hay and Feed Stuffs.

HAY—Prices on hay, per ton: Wheat, @$15; barley, $10.50; clover, $10.50@11$.50; alfalfa, $9.50@12; stock, $8.50@10.50.

FEED CORN MEAL—Choice grades, per ton, $28.50@$29.

MIDDLINGS—Per ton, $26.50@28.

BRAN—Per ton, $19.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BRAN—Per ton, $21@22.

FEED CORN MEAL—Choice grades, per ton, $29.50@30.50.

BRAN—Per ton, $19.50@20.

COCOANUT CAKE—In lots of ten tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.35@$1.37½; white milling, good to choice, $1.40@$1.50.

BARLEY—Choice No. 1 feed, $1.11¼@$1.15; off grades, $107½@108¾; brewing, No. 1, $1.17½@$1.22¼; Chevalier, $1.30@1.45.

CRACKED CORN—Choice quality, per ton, $29@$30.

OATS—Good to choice white, $1.22@1.35.

Hops.

The price for new crop is 18@22c per lb., according to quality.

WOOL.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

Chicago, Dec. 9.

A bullish tendency pervaded the market today, occasioned by reports which come in lowering the percent of the wheat crop somewhat in the wheat producing sections of the country.

Cash quotations were as follows: Flour was firm; No. 3 spring wheat, 82; No. 2 red, 83½@86⅝; No. 2 corn, 41½; No. 2 yellow, 44; No. 2 oats, 34¼@38; No. 3 white, 35@37; No. 2 rye, 50½@51; good feeding barley, 36@37; fair to choice malting, 48@58; No. 1 flax seed, 91; No. 1 northwestern, 98; prime timothy seed, 2.85; mess pork, per bbl., 11.25@11.37½; lard, per 100 lbs., 6.37½@6.40; short ribs, sides (loose,) 6.00@6.25; short clear sides (boxed,) 6.12@6.25; whiskey, basis of high wines, 1.27; clover, contract grade, 11.00.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	56,600	28,200
Wheat, bushels	195,900	52,300
Corn, bushels	248,700	51,500
Oats, bushels	422,000	78,900
Rye, bushels	14,200	8,800
Barley, bushels	187,700	22,200

On the Produce Exchange today the butter market was steady; creamery, 16@25; dairy, 14@17; eggs, firm at mark, cases included, 24@26½; cheese, steady, 10@10½.

Chicago Live Stock.

CHICAGO, Dec. 2—Cattle—Receipts, 2500; slow; good to prime steers, 5.25@5.75; poor to medium, 3.50@4.90; stockers and feeders, 2.00@4.10; cows, 1.50@4.00; heifers, 2.00@4.75; canners,1.50@2.40; bulls, 2.00@4.30; calves, 2.50@6.50; Texas fed steers, 3.00@4.00; western steers, 3.00@4.50. Hogs—Receipts, today, 45,000; tomorrow, 35,000; steady; mixed and butchers, 4.25@4.60; good to choice heavy, 4.45@4.60; rough heavy, 4.25@4.40; bulk of sales, 4.35@4.45. Sheep—Receipts, 25,000; sheep and lambs steady; good to choice wethers, 3.75@4.25; fair to choice mixed, 3.00@3.75; western sheep, 3.00@4.50; native lambs, 3.50@5.80; western lambs, $3.80@4.65.

California Dried Fruits.

NEW YORK, Dec. 9.—The market for evaporated apples is attracting little better demand, and the undertone is a shade firmer; common, 4@4¾; prime, 5@5½; choice, 5¾@6¼; fancy, 6¾@7. Prunes steady at 2½@6½ for all grades. Apricots rule steady at 9@9½ for choice; 9¾@10¼ for extra choice, and 14@15c for fancy. Peaches continue quiet, with choice quoted at 7¼@7¾; extra choice, 7¾@8¼c, and for fancy at 9¼@10¼c.

CITRUS MARKETS

THE ORANGE MARKET.

We regret to report the condition of the orange market as anything but satisfactory. In the first place there is no point showing great activity or large volume of business even under the low prices pervailing at all points. Auction markets during the past week have sold early shipments at uniformly low prices, although there has been a little improvement in New York on Floridas, and we should feel this improvement should show in the price of Californais, but it tends to show that Florida fruit is appreciated more than our stock at the present time, on account of the eating qualities.

There is no demand in any section of the country for seedlings, all cars of this variety being very hard to dispose of.

The Western markets are not buying just at present for Xmas deliveries except on orders for shipment. Cars will be purchased much more freely next week spot goods.

Shipments have been very light from Southern California on account of market conditions, as well as fruit coloring slowly, but there seems ample going forward under the circumstances.

THE LEMON MARKET.

The lemon market has shown a great deal of weakness during the week and sales are far below those of two or three weeks ago. Demand is light and prospects unfavorable. The supply of foreigns is 25 to 33 1-3 per cent more than were in sight last year at this time. There is very little encouragement in sight for the immediate future.

AUCTIONS.

NEW YORK, DEC. 2.

H. H. Fruit Co., Silver lemons, $2.60. Squirrel, $2.20. Palm Tree, $1.80.

C. C. U., Exeter, Mariposa navels, $2.25.

A. C. G., Red Shield, $2.40.

PHILADELPHIA, DEC. 2.

T. C., Zante, Forgetmenot, $2.15. Fruit green.

PITTSBURG, DEC. 2.

C. C. U., Exeter, Mariposa navels, $3.10. Mistletoe, $2.45. Fruit pale.

C. C. U., Duarte, Iris navels, $2.40. Violet, $2.05. Primrose lemons, $1.30; 10% decay.

S. T. Fr. Ex., Lamanda, Fancy lemons, $4. Choice, $3.10. Standard, $2.30.

T. C., Lindsay, State navels, $2.80. Capitol, $2.60.

NEW YORK, DEC. 3.

C. C. U., Exeter, Mariposa navels, $1.80. Fruit pale and spotted.

A. H. Fr Co,, Squirrel lemons, $2.35.

C. C. U., Exeter, Mariposa navels, $2.55. Mistletoe, $2.45.

PHILADELPHIA, Dec. 3.

C. C. U. Orville, Yuletide navels, $2.25. Fair color and quality. Market weak.

BOSTON, Dec. 4.

T. C. Exeter. Perfection, $2.20. Canyon navels, $1.80.

C. C. U. Lindsay Wreath navels, $2.05.

C. C. U. Corona Victory lemons, $2.90. Nasturtian, $2.80.

C. C. U. Porterville, Mariposa navels, $3.85.

NEW YORK, Dec. 7.

C. C. U. Exeter, Mariposa navels, $2.75. Mistletoe, $2.55.

C, C. U. Exeter, Mistletoe navels, $1.70.

A. H. Ft. Co. Squirrel lemons, $2.70.

C. C. U. Exeter, Lily navels, $2.55.

PHILADELPHIA, Dec. 7.

C. C. U. Orville, Yule Tide navels, $2.35.

CLEVELAND, Dec. 7.

T. C. ,Zante. Forgetmenot lemons, $2.25. Oak-leaf, $1.95.

PITTSBURG, Dec. 7.

T. C. Porterville. Forgetmenot navels, $2.50. Oak-leaf, $2.15.

C. C. U. Orville, Mistletoe navels, $2.40.

NEW YORK, Dec. 8.

C. C. U. Exeter, Mariposa navels, $2.55.

T. C. Lindsay State navels, $2.05. Capital, $1.70.

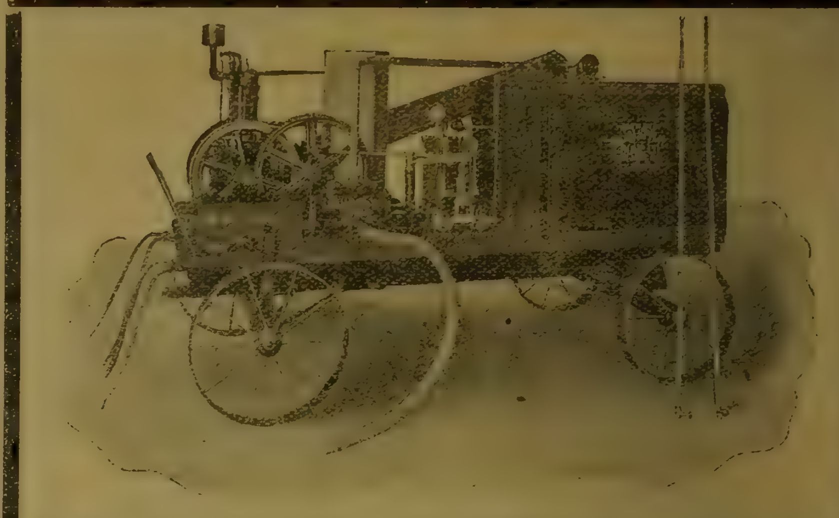
BOSTON, Dec. 9.

C. C. U. Porterville Lilly navels, $2.00. Monarch, $1.70.

C. C. U. Exeter, Mistletoe navels, $2.15.

Total to date this season, 660 cars, of which 240 are lemons.

Total to same date last season, 1080, of which 263 were lemons.



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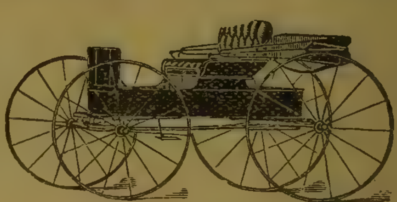

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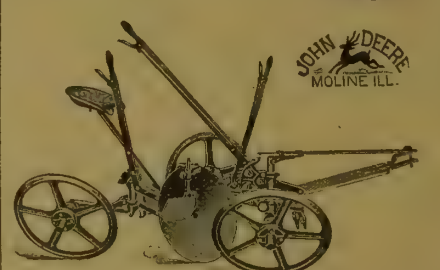

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The Foundation of Success in Poultry Raising

Eggs are the foundation of success in poultry raising. If you do not get eggs you will not make money, and no matter whether you keep poultry for pleasure or profit, results are what you want.

SUCCESS FROM ATTENTION.

Eggs are not a matter of luck. Hens do not "just happen" to lay or "just happen" not to lay, as some think; but success in poultry raising, the same as in any other business, depends mainly upon the intelligent attention paid to details.

THE FEEDING PROBLEM.

Now, every man or woman who raises poultry knows that of the many things requiring constant attention, nothing is more important than the feeding question. Fowls must not only have plenty of feed, but it must be of the right kind or they will not thrive and prosper; and unless they do there is failure in store for the poultry raiser.

POULTRY FOOD.

As for food, the Dairymen have learned how to feed for milk and butter, the Stockman for quick growth of meat and Poultrymen for eggs on one hand and meat on the other.

THE HEN AS A MACHINE.

In many ways we regard the hen as a machine for converting raw material into eggs and flesh, and she, like any other machine, must have proper materials for her work, for she cannot manufacture eggs unless you give her something to make them with.

AN EGG NOT A SIMPLE MATTER.

As you no doubt know, an egg is not a simple matter, but is composed of a variety of substances. We know that within the shell is everything required for the formation of the chick:—bone, muscle, tissue, blood, feather, etc., this being the case you can readily realize that a variety of substances is needed to make the egg, and as the hen gets them from the food she eats it stands to reason that unless this food is of the proper character, viz: containing all the egg forming materials in the correct proportions, she will not lay, or at least not to her fullest capacity.

A chick cannot grow or a hen cannot lay unless you give them the proper materials with which to make bone, muscle and eggs.

THAT'S PLAIN.

We know how to make good Poultry Food and we do it. Coulson's Egg Food, a balanced ration, ready mixed feed that makes hens lay.

In order to get the best results from your laying hens, it is necessary that you feed them a warm mash of Coulson's Egg Food. Profits from poultry depends on how and what you feed. When hens do not lay well or at all many owners think if they look rosy, plump and fat that is an indication that they surely receive ample supplies of proper food. But there is a science in feeding. Laying hens should be fed food that makes egg production and at the same time strengthens the hen.

In order to get best results from laying hens you should feed them Coulson's Egg Food, which is for sale at almost all feed stores. Get a ton, give it a trial and make more money out of your hens.

Loading Cars With Coulson's Egg Food

Fallon, Marin county, November 10.

Mr. A. R. Coulson, Petaluma—Dear sir: My chickens were dying of cholera at the rate of 7 to 10 per day until I had lost about 400 hens. On or about August 1st I your Mr. Miles called upon me and I purchased 50 pounds of your No. 3 Condition Powder and 1 bottle of Cholera Cure. I fed the hens I had left—about 700—7 tea cups full of No. 3 powder every morning in the mash, also put the Coulson's Cholera Cure in the drinking water according to directions, and sprayed the houses every day with a solution of crude carbolic acid and Coulson's Phenylene in the proportion of 1 gallon acid to 5 gallons of Phenylene, and I wish to say that, from the time I started to use your goods up to the present time I have not lost more than 20 hens.

And I also noticed that they were backward on the molt, but now the new plumage is coming on very fast and they look fine. I am perfectly satisfied and consider that your remedies helped me in more ways than one, for besides CHECKING and CURING the cholera they also materially helped the molt, and I can cheerfully recommend them to the poultrymen. Yours truly, James Fallon.

This recommendation comes from a locality where more than six thousand hens have died from cholera in the past three months, some poultrymen losing from four hundred to two thousand hens.

Here is another recommendation for Coulson's No. 3 Condition Powders:

A. R. Coulson Co., Petaluma—Gentlemen: My hens of which I have 1400 were dying at the rate of four hens a week. I purchased 50 pounds of Coulson's No. 3 Condition Powders last August. I put a little in their feed every morning and have not lost over six hens since. It is the best condition powder for poultry that I ever used and I can recommend it to all poultrymen. J. W. Dotters, Novato, California.

Antioch, Calif., Dec. 2, 1903.

The A. R. Coulson Co., Petaluma—Gentlemen: I have been using Coulson's Balanced Ration Egg Food for about six months and will say that my flock of birds, consisting of Barred Rocks, White Minorcas and Pekin Ducks (numbering about 450 birds) are looking better and have molted earlier than ever before, and furthermore, my old hens started to lay in November, two months earlier than ever before.

I am perfectly satisfied with your feed, for it does all you claim for it, and I can cheerfully recommend it to all poultrymen.

Wishing you success, I remain, Yours respectfully, Willis S. Rose.

P. S.--One pen of these Pekin Ducks took first prize at the San Francisco Show, Dec. 1-5, 1904.

Santa Maria, Cal., Nov. 25, 1903.

A. R. Coulson Co., Petaluma, Cal.

Dear Sir: I have used five sacks of your egg and feather food, feeding it to my hens during the molting season, and they kept on laying better than they ever did before during that period.

I can heartily recommend your egg food to any poultry raiser and it will do all that is claimed for it. J. R. Triplett.

CHICK FOOD.

If you like to see little chicks dive into the feed as though they like it; if you want to see little chicks always spry and healthy; if you want to have them grow rapidly and mature quickly; then you want to feed them the first two months on

COULSON'S CHICK FOOD

and you will be pleased with the way your little chicks are growing. No bowel trouble, no leg weakness on

COULSON'S GROWING CHICK FOOD.

Coulson's Chick Food will cost you more than some other feeds, but Coulson's Chick Food will raise the finest and largest chicks.

We take great pains and carefulness in selecting the grains, seeds and meals to be used in preparing the Food.

More than 200,000 pounds of the chick food sold last season and about a million chicks were fed on the Food.

Already this season we are receiving orders from dealers for thirty thousand carload lots. On one ranch near Petaluma of O. H. Puryine there is at the present time a flock of three thousand two hundred little chicks that are fed one ninety-pound sack a day of the Food, and the owner says he never had a flock of little chicks that eat and grow like these do.

Coulson's Food is the feed that little chicks like and it is the feed that makes little chicks grow.

If you are going to raise any chicks, give it a trial and you will be well pleased how nice your little chicks will be and how they will grow.

Manufactured by

A. R. COULSON CO. Inc.

Manufacturers of Poultry Remedies, Condition Powders, Poultry Foods, Roup Cure, Lice Killer, Etc, Wholesale and Retail.

Send for Free Sample and Catalogue of Poultry Supplies **772-774 Main St., Petaluma, California**

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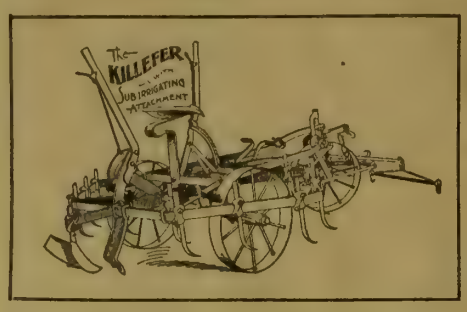

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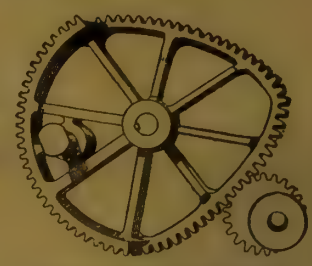

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Tree Spray Distillate

Not an emulsion of oil and caustic soda, but a special distillation of oil from which all asphalt and other deleterious substances have been removed. Mix with water and apply with spraying apparatus that gives a thorough and constant agitation to the liquid—when properly done we guarantee that it will destroy all insect life attacking either citrus or deciduous fruit trees and not

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Cheapest and Best Insecticide. We also manufacture Gas Engine and Stove Distillate, Lubricating Oils, Etc. We solicit your correspondence and orders.

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WESTERN ENGINES

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COMPLETE PUMPING PLANTS set up and guaranteed.

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908 N. MAIN ST. LOS ANGELES, CAL.

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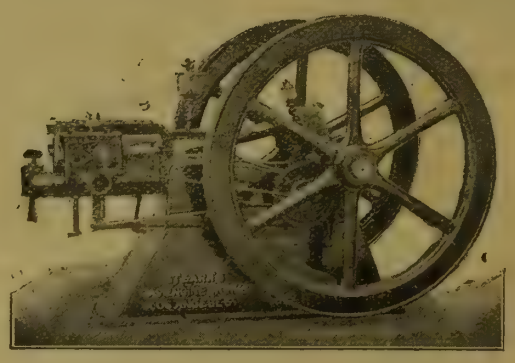

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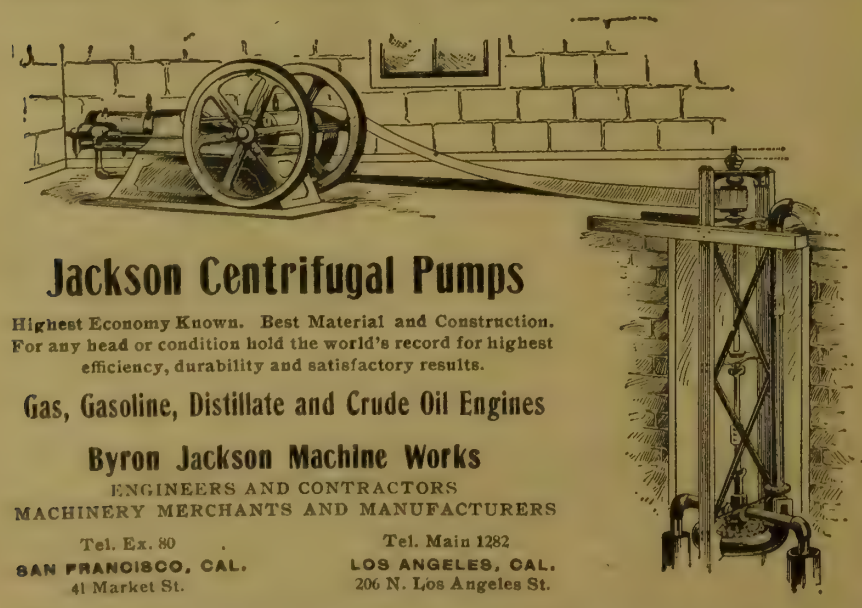

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California Cultivator

LOS ANGELES SAN FRANCISCO

DECEMBER 18, 1903

RINCON VALLEY.
Pastoral Scene on the line of the California North Western Railroad.

CIRCULATION THIS ISSUE, 9,950

Yarnell's Vernon Nurseries

One of the best sales of nursery trees we have heard of this season was recently made by A. Yarnell of the Vernon Nurseries. It was likewise one of the best purchases, for, having seen the trees we can vouch for their being exceedingly fine ones, and a fine, thrifty tree is worth good money to any planter.

This particular sale was of 2000 first grade soft shell walnut trees, for which an even $1000 was paid. Looks like we would all wish to be nurserymen. But it isn't all one-sided. Thorough care and intelligent handling are necessary to secure trees of that kind.

Apple Nursery

Mr. Yarnell's nurseries are near the city of Los Angeles, south and east of Vernon. They are on land with sufficient moisture that but little irrigation is practiced—none at all on some of the stock. Yet all are so thrifty and strong growing as to attract instant attention.

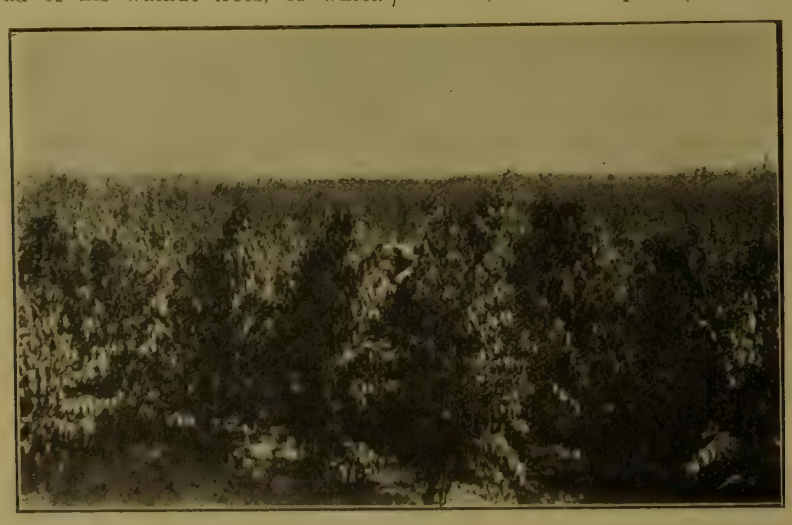
Walnut Trees, grown without irrigation

While Mr. Yarnell is particularly proud of his walnut trees, of which he has a large number, yet his entire stock of deciduous trees is of equally good quality. All told, he has about 100,000 trees. There are peaches from the earliest to latest varieties. In apples Mr. Yarnell realizes that the southern part of the State will need more of that king of fruits. He has the more desirable varieties of stocky, strong growing trees. 'Cots and prunes, persimmons and plums; in fact, nearly everything for the market or the home orchard.

While at the nursery it was the pleasure of the writer to eat grapes from vines which were cuttings last spring. That is thrifty growth when young vines will do that. Of grapes there are many varieties of table grapes, and all equally thrifty with the ones which had fruit on.

As Mr. Yarnell says, a day spent in looking over his nurseries is time well invested for much of value may be learned and the sight of such stock trees is a pleasure.

As may be noted, the bulk of trees of this nursery are deciduous orchard trees. Yet there is a nice line of ornamentals, such as palms, umbrellas, camphors, roses, etc.



Peach Nursery

While the nurseries are outside the city, some distance from the end of the Vernon car line, much of the stock can be seen at the yards which are at Mr. Yarnell's fine new home at 4524 Central avenue, Los Angeles, Cal.

Plums and Prunes that are beauties

CARE OF LINOLEUM.

Every block in a piece of linoleum should remain in its place until the linoleum is worn out. A quantity of water used upon it causes the glue that holds the blocks together to soften. Linoleum should be cleaned with a wet cloth and rubbed dry with one of dry flannel.

SOMETIMES.

Sunday-school Teacher—"Bobby, where do good people go when they die?"

Bobby (glibly)—"To heaven."

Sunday-school Teacher—"Yes, that is right. And if a person who is wicked all the way through dies, where does he go?"

Bobby—"To the police station."—Woman's Home Companion.

CALIMYRNA FIG TREES

The Calimyrna Fig is the genuine Smyrna Fig of commerce, the one fig that is fit for commercial purposes. It was developed and named by Geo. C. Roeding. It is grown true to name at the Fancher Creek Nurseries. If you want the genuine and original Calimyra Fig, buy direct and insure trees that are true to name, The reputation of the originator and of the Fancher Creek Nurseries is at stake, and no trees will be sold that are in any way questionable.

"The Symrna Fig at Home and Abroad," by Geo. C. Roeding, 87 pages illustrated, sent postpaid for 25 cents in stamps.

Fancher Creek Nurseries, Inc.,

BOX 14, FRESNO, CAL.

Growers of Trees and Vines of All Sorts.

Coulson's Food for Calves...

A special compound of food stuffs to be mixed with the milk, for

PREVENTING THE SCOURS

and an aid in fattening for the market. Promotes the growth of calves, as it is a great flesh producer. It prevents the scours and keeps Calves in good, healthy condition.

Directions for Feeding Calves.

Commence with small amount first, say about a handful, put in a pail—pour over it a little hot water to scald it (use scalding hot water to pour over it so as to kind of cook the starches in the food) then pour in the milk or skim milk. As the calf grows older you can feed more of this food, and instead of using a handful use a pint or a quart of the food with skim milk.

Coulson's Food for Calves is not only a developer, muscle and bone builder, but it is also an appetizer.

By the addition of Coulson's Food for Calves to the skim milk or milk, it is made more palatable and the calves will eat it readily and greedily.

Keep your calves in A1 growing condition by using Coulson's Food for Calves. It regulates the bowels and stomach and keeps the digestive organs in good shape so that they can do the work properly and the calves will grow and put on flesh rapidly.

Price 90-lb. Sack, $2.50; 50 pounds, $1.50; a small amount, 4 cents a pound.

Its cost is small, as it only takes a little of it for a feed. Prepared by

A. R. Coulson Co., Inc.,

Factory: First and E St. and 772-774 Main St., Petaluma, Cal.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 25 LOS ANGELES, CAL., FRIDAY, DECEMBER 18, 1903 Subscription $1 a Year

Deciduous Fruit Shipments for 1903

BY ALDEN ANDERSON

The first carload of deciduous fruits for the season of 1903 consisted of a fruit express car of cherries and was shipped from Vacaville, Solano county, May 9th. The last car (apples excepted) consisted of grapes and was shipped from Concord, Contra Costa county, November 21st.

As will be seen from the accompanying statement, the shipments of this year exceeded those of last year by several hundred carloads, just as the shipments of last year exceeded those of the previous season.

In the figures given below are included 670 cars af apples. This number does not include all the apples shipped from California but simply those that have come under the cognizance of this organization in the same proportion as formerly. This fruit was distributed to a total number of 131 cities, being a considerable increase over that of any previous year. In fact, fruit was placed this year in no less than 28 cities that never before received California fruit in carload lots and while a few of the cities experimented with last season did not prove satisfactory car lot distributing points, and some of those experimented with this year are not yet ready for such shipments, the most of them will develop into regular distributing points. The largest quantity of any one variety of fruit handled outside this organization was grapes, and as the several outside shippers of this variety of fruit generally shipped only to one or two cities, at times there was a relatively greater amount of this fruit in some markets than there should have been. Otherwise there has been a comparative evenness in sales throughout the season in all markets.

* * *

Cherries—The crop of cherries was lighter than last year but was of good quality and ripened gradually, which made it possible to ship and distribute same in the best possible shape. Sales were very remunerative.

* * *

Apricots—More apricots were shipped than last year and as the crop in the early shipping districts was heavy the quality was not as good as usual. The prices on the whole were satisfactory.

* * *

Peaches—There was an increase over the shipments of last year. The earlier varieties were somewhat lighter and other varieties about normal. The best average net returns secured were had this year. This was particularly true in regard to later varieties, especially Salways, which held up at good prices until the end of the season.

* * *

Plums and Prunes—There were some 250 carloads less shipped this year than last year, but during the height of the sason daily shipments exceeded those of any single day last season. It required the utmost exertion and care to have the shipments properly distributed to the end that there would be no glut in any of the markets. Later varieties of plums were very short. Prices were very satisfactory.

* * *

Pears—The total number of cars of pears shipped was slightly less than last year, but the main shortage was in the fall and winter varieties.

* * *

Grapes—The greatest increase in any one variety was in grapes, there being 1802 cars against 1033 cars last season, the largest previous shipment of this product. Prices on the whole were even and remunerative and netted satisfactory figures. This, in view of the fact that the importation of Almeria grapes was greater than ever before known, is particularly gratifying.

* * *

The larger portion of the above fruits were handled by the California Fruit Distributors, with headquarters in Sacramento. This organization is composed of most of the principal growers, shippers and co-operative associations engaged in the fruit shipping business. They were organized in May, 1902, and immediately assumed all of the functions and duties of the organization known as the California Growers' and Shippers' Association, together with greatly enlarged powers, duties and responsibilities; their business being not only to give the utmost accurate information in regard to all shipments, etc., but to secure an even distribution thereof to all markets.

Membership in this organization is in no way qualified by the quantity of shipments made. The shipper of one car is given as much consideration as the shipper of a hundred. There are eleven directors, each of whom has a vote in the fixing of policies and the outlining of general business directions. The representation is based thus not on the volume of business done but rather on the individuals represented.

Before the organization of the present company, those engaged in the industry labored under many disadvantages that are now eliminated. Competition for business was keen, with no regulation of shipments. Each one endeavored as much as possible to keep his business from his competitor, for that purpose, billing all their cars to one city, making diversions that they kept to themselves while the cars were enroute, with the result, for instance, that a city like Minneapolis, where three cars of peaches might sell at good figures, was at any time liable to have three times that amount sent in by different firms, which would necessitate the selling price being cut to a minimum, while a city like Pittsburg might at the same time be without any fruit, whereas an equalization of the shipments to the two markets would have meant remunerative and satisfactory prices for all concerned.

The formation of the California Fruit Distributors was not an easy matter. Some firms, because of location or superior packing on their part, or better carrying quality of their fruit, enjoyed advantages not common to others. Some of them believed that if they could keep on with prevailing methods for a short time they would force their competitors out of business and they then would have the field entirely to themselves, while all the time they would likely be losing money for all concerned.

The general plan of operation of the California Fruit Distributors is as follows: They do not purchase or own a pound of fruit themselves, but simply act as a clearing house or agency for the different growers, shippers and associations working through them, who make their own carload shipments. When a car is loaded the bill of lading is endorsed over to the California Fruit Distributors and is sent, together with manifest and all pertinent information regarding contents thereof, to the company's headquarters in Sacramento. The car is then disposed of for the account of the party loading the same. Once the bill of lading and manifest of contents is received, the management aims to place the fruit in the best possible market for that fruit, taking into consideration the variety, its degree of ripeness, and general quality, and using their knowledge of the needs, requirements and local or domestic supplies of the different markets, together with previous shipments as a basis of action.

Not only have they complete and accurate information of all shipments previously forwarded, as they make all sales, diversions, and apportionments, but they receive telegraphic information daily from all leading centers stating present condition, prospective demands, amount and variety of local supplies and all other matters pertinent and necessary to the most intelligent distribution of the fruit.

The distribution of fruit to the auction markets is made with the utmost care and long experience in the business is called upon to direct what fruit should be sent to the different markets and to apportion to each market the relative proper amount of fruit to keep them all on a comparative equality, after taking into consideration the difference in the cost of transportation and refrigeration charges to the different points. Were California the only fruit shipping state the problem of distribution would be much easier, but there are other large fruit shipping districts, especially in the South, and their fruit comes into competition with California products.

* * *

The most serious problem to be solved now is the one of transportation. Little more can be done toward systematizing the selling and distribution or increasing the volume of shipments or taking the very best care of those already shipped until this important matter is worked out satisfactorily. We must have a regular, as well as an expedited service, to the end that we can know positively, barring accidents, just where a car of fruit will be at any given time. About 60 per cent of the shipments are distributed through the auction markets. No fruit is sold in these markets on Saturday or Sunday. Shipments are made from California on every day, including Saturday and Sunday.

* * *

The most strenuous efforts will be put forth by the California Fruit Distributors to obtain such a service and until such a service is had it will not be felt that the most vital necessity of the business is secured or the next most necessary reform accomplished. Other reforms and changes will have to and will be made, but little more can be accomplished until this stumbling block is out of the way. It is only because of the splendid carrying qualities of the California fruits and the intelligent packing and preparing of the same that they have been able to maintain their present position in the various markets and there is no reason why the industry cannot and should not be maintained upon a permanent, stable, remunerative basis on average results for all seasons.

Thus far, out of diverse interests, secrecy and undue competition has come a measure of order, system, stability and satisfactory returns, and while to favorable conditions in the East might be attributable a part of the result, it cannot be wholly so attributable, because never before in the history of the business has there not been times of glutted markets and red ink returns from some of the distributing points, and besides, the shipments this year were greater than ever before by several hundred carloads.

With a proper selection and careful grading of the fruit and an expedited scheduled freight service, and with possible reductions in charges in different ways from time to time, I believe that twelve thousand cars of deciduous fruit can be marketed from California with as good or better results in the future as has ever been attained in the past, and the organization and maintenance of the California Fruit Distributors is a long step toward that consummation. It is a long stride in the direction of intelligent and practical co-operation in the handling of one of California's chief products, with the consequent benefit to the whole industry and to the whole state.

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

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One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

ADVERTISING RATES

furnished on application. Copy for changes must be in the office by Tuesday noon.

CORRESPONDENCE

solicited on all matters of interest pertaining to farm work or development of the resources of our country.

Our query and reply department is intended as an information bureau. All matter for this department can be addressed to the CULTIVATOR

Letters for editors of departments should be addressed in care of the office of publication.

All manuscript for publication should be plainly written, on one side of paper only, and mailed FLAT, not rolled.

We cannot undertake to return manuscript or photographs unless stamps therefor accompany same.

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Dec. 18, 1903

Circulation this issue 9,950

OF GENERAL INTEREST.

Commerce and Labor—The reports of Secretary Cortelyou of the department of Commerce and Labor is a document full of interest to the public. After a full discussion of the importance of the work of the office, as an education factor which will enable both capital and labor to fully understand prevailing conditions by collecting and publishing necessary information, Mr. Cortelyou concludes by saying:

"The department deals with the great concerns of commercial and industrial life. To be of service to these interests it must have their hearty co-operation and support. It must be a department of business. It must be progressive, but at the same time conservative. It must not deviate in its course from the pathway of justice. strict and impartial. It must be nonpartisan in the highest and broadest sense. It must recognize no distinction, as between large and small interests, as between the affluent or powerful and the humblest citizen. If it attempts to occupy a field that properly belongs to private endeavor it w ll inevitably fail to realize the high hopes of its present well wishers. It must adhere rigidly to the lines marked out since the foundation of the government for Federal agencies in executing the will of the people. If these general principles are made effective, if conservatism and impartiality, coupled with ever-increasing efficiency, marks its adminstration, I cannot but believe that this new department will become a mighty influence for good in our commercial and industrial affairs."

* * *

A Forlorn Hope—Should the report prove correct, which has been published, that Colombia is sending 3000 men to attack the Republic of Panama, the world will witness another fiasco of the Spanish memory. Not only would the Indian tribes occupying the country between the Isthmus and the territory of Colombia object to the passage of an army through their providence, but the United States troops when landed would effectually block the march of an invading force. So if Colombia is determined on a fight, there is a probability it will be accommodated.

* * *

Don't Knock.—We do not believe that any company or organization of promoters is justified for a moment in misrepresenting the conditions which prevail in this state as to the wealth-producing power of fruit growing or of farming. That such misrepresentation is sometimes used cannot be denied. That it is not more often done is remarkable.

We believe that the two great railroads which send literally millions of copies of pamphlets and circulars, also Chambers of Commerce and Boards of Trade, send out statements of fact regarding the possibilities of this state which should mislead no one.

When we say possibilities we do not suppose, however, that all who may be influenced by such statements and enter into fruit growing will live up to those possibilities. It not only requires intelligence, capital and hard work to succeed in fruit culture, but to secure best returns, experience as well.

That the inexperienced come here, make certain failures, then, profiting by them, with determination and hard work compel success, is well known. That certain others stop after the first failure is likewise the case. The latter class should not condemn the state. Neither should particularly brilliant exceptions be taken as an average of the state.

But between these extremes is a measure of success which is secured by the vast majority of producers which has caused their numbers to increase until now there is a cry of over production. That is, some think that this cry is new and just promulgated.

But for all time such a cry has been raised, and will continue to be raised so long as any industry is growing. The production grows faster than the demand. The demand is increased by advertising, by education, and is created and increased constantly.

Many years since the cry was raised that over production of apples was coming. Millions of apple trees have since been set and today the price is several times higher than at that time.

This state has vast areas which need development. Let the investor determine what any particular section will produce to perfection, then produce the best of its kind and a market will be forthcoming. We believe any system of "knocking" is not only unwise and foolish but worse, it is a very great injury to the state.

It was most gratifying to note at the recent state convention that optimism prevailed and that the majority of growers are believers in the future greatness of their industry.

* * *

Farmers In Union—Reports come from Texas that the farmers of that state are going into a union at a rapid rate.

There are today 3000 unions in Texas, with a total membership of 40,000 or more, and the organization is spreading like wild fire.

About the middle of February next, a meeting will be held for completing a state organization, and it is believed the movement will spread to other states. The purpose of the union is to buy and sell in bulk, to educate along agricultural lines, and to eschew politics, but to nevertheless discuss political economy. Co-operation is coming. After the farmers once see the benefits of co-operation nothing will stop the establishment of co-operative institutions throughout the entire land.

* * *

Liable for Damages.—The decision of Judge Trask, in the injunction case, in which the California Citrus Union attempted to restrain certain Monrovia growers from disposing of their contract fruit outside the Union, does not seem to touch the merits of the contract between the contending parties. The decision holds that the defendant growers are subject to action for damages should they violate the agreement, and holds that as sufficient relief in case of such violation. What effect the outcome will have on the status of the Citrus Union's business no one seems to know at this time.

Edward Everett Hale—The selection of Edward Everett Hale as chaplain of the U. S. Senate, brings to that body a man of great intellectual strength and recognized religious convictions. It speaks well for the highest body of Congress that in the selection of its spiritual adviser it has gone outside the pale of politics and chosen a man of world-wide religious renown.

STATE FRUIT GROWERS' CONVENTION.

The fruit growers were honored on Wednesday at the convention by the presence of Governor Geo. C. Pardee. This is the third time in twenty-nine years that the State Convention has been so honored. The Governor entered the hall unannounced, and when called upon for a speech, proceeded to the platform unattended and in a most democratic manner. His address was the most eloquent of the convention. He reviewed the history of the state during its pioneer and gold mining days, and spoke of the wonderful changes that have taken place. He spoke of the part fruit gowers have taken in the development of the state, and the great reward that is ours. He concluded as follows:

"The question of transportation seems to me, so far as one who is as far outside the pale as I am can judge, of the utmost importance. We have two great railway systems, both utterly unable to take care of the business California offers them. Instead of taking your products quickly to the markets of the world, it takes time, which practically takes from them a value which should be yours.

"The question of pest on your vines and fruit trees is one receiving full attention from the government of the state. We believe that anything that will militate against your efforts is doing an injury to the state which the state should do everything to work against."

Hon. Chester H. Rowell, of Fresno, spoke of Raisin and Wine Grapes as an observer who has traveled much in this country and in Europe. Mr. Rowell was most hopeful of the future of the industry.

Percy T. Morgan, president of the California Wine Association, spoke of the wine interests from the standpoint of the association and showed how magnanimous the association is in paying such reduced prices. This was afterwards combatted most vigorously by some of the growers. Mr. Morgan is a believer in over-production and says that the consumption in this country is not one-fiftieth of that in France. Whether this slight consumption should be overcome by combatting the temperance forces, by increasing exports, by increasing output of unfermented grape juice or by reducing output, were points which Mr. Morgan raised.

T. C. White, of Fresno, spoke of the raisin outlook, which he did with much misgiving as to the future. This was because of two reasons: First, so many remain outside the association, and second, the apparent over-production.

One paper which created intense interest was that of Prof. Newton B. Pierce, which appears on another page of this issue.

By courtesy of the street railroad company, a pleasant ride was tendered the visitors in the afternoon. Some of Fresno's prettier homes, school buildings, packing houses, and some five miles out to Sunnyside amongst some of the largest vineyards, were features of the ride.

After the return, convention; but as it was a session wherein the scrap between the claimants that over-production and loss were staring the fruit growers in the face, and the optimists, there was not much benefit in it. Resolutions were introduced endorsing the work of the State Promotion Committee and referred to resolution committee. An effort was made to secure the appointment of a committee of fifteen to devise ways of getting all fuit producers together for one general fruit marketing.

President Cooper was called away by telegram which announced the death of a relative, and W. R. McIntosh and Harry P Stabler presided until the end of the convention.

In the evening Mr. Hartranft spoke on fruit marketing, commending the fruit auction and asserting that auctions could be established in California. J. A. Fletcher, secretary of the State Board of Trade and member of the World's Fair Commission, gave a rousing speech on the benefits to California from work done and exhibits to be made at the fair.

Robert Boot, president of the California Raisin Growers' Association, spoke on the raisin industry, which was largely historical and was an appeal to support the association. D. D. Allison, also of Fresno, spoke of handling the raisin crop and the benefits of co-operation.

The papers on Friendly Insects, by Alexander Craw; Insects of the Year, by Edw. M. Ehrhorn; Scale Pests, by Prof. Cook; Observations on Codling Moth, by Prof. Woodworth, and Spraying Operations in Pajaro Valley, by Prof. Clarke, all came Thursday morning, and will be given or quoted from in a later paper. The ladies session on Thursday afternoon was largely attended and was most successful. Some of these papers will be good reading for Cultivator readers later.

On Thursday evening one of the pleasant features of the convention was given in a reception tendered by the Ladies' Parlor Lecture Club. Joaquin Miller read a number of his poems and many local people added to the pleasure by recitations and songs. After the formal program a social time with refreshments followed.

Friday was closing day, yet most of the delegates remained to the end. The morning program was opened by Hon. A. M. Drew, of Fresno, on Needed Horticultural Legislation. He was followed by Geo. C. Roeding with an excellent paper on the Fig Industry of California; The Walnut, F. E. Kellogg, and the Report of Committee on Labor by Henry P. Stabler. Afternoon. Mr. Barnhill spoke of Advertising California and its Products; A. D. Bishop and Dr. S. M. Woodbridge on Fertilization.

Gen. N. P. Chipman was present and deprecated the pessimistic views which had been so freely expressed in the convention, and introduced the following, which was passed on a rising vote: "Resolved, that it is the sense of the California Fruit Growers, in convention assembled, that the fruit growing industry of California is in a general satisfactory and prosperous condition."

R. D. Stevens, chairman of transportation committee, fought this bitterly, but there was only one in the convention who stood with him on the final vote.

The usual line of resolutions were passed and the convention was over.

KEEP POLITICS OUT OF THE INSTITUUE.

Editor Cultivator: At the San Diego Farmers' Institute there was much merited complaint of the programme, in that it cut out much of purely necessary information to the farmers and orchardists, at this season, and admitted matter which was properly germain to politics. Whoever originated the programme made the serious error of mixing agriculture and politics—to the injury of agriculture. We say this in all good conscience, for at our coming meetings, let us hope, we shall have what interests us more than politics—a discussion of things pertinent to the farm, orchard, dairy and home. —A Member.

The point is well taken if the facts are correctly stated. The state is not paying its money to educate the people in political theories, that is the business of the politician and belongs to the forum.

The United States Steel Corporation will, on January 1 next, put into effect a general system of economy which will result in a reduction of wages of employes from 5 to 20 per cent. The sweeping order will affect over 160,000 out of 186,000 employes. All of the 186,000 however, will, within a year, suffer reduction in their wages. The startling condition of affairs in the management of the steel trust disclosed in the recent investigation has perpared the public for this action. Of course the employes understood what must come when they followed the course of the investigation.

The English cotton mills are closing down because of the high price of cotton.

Glendora Citrus Nurseries

Washington Navel, Thompson Improved Navel
Valencia Late and St. Michael Orange Trees
Villa Franka and Eureka Lemon Trees
DANCY and OONSHIU TANGERINES
"NECTAR" POMELO

This stock is one-year buds on two-year roots.

1,000,000 FANCY ORANGE SEED BED STOCK

A good look at these trees is sufficient to convince the most particular buyer—send for prices.

W. G. HALL - GLENDORA, CAL.

General Agriculture

Editor Cultivator: Is the Lenoir vine a resistant to the Anaheim disease? Please tell us in your next issue what you know about that.—W. R. Steele.

It is the most resistant stock known at present.

Will the walnut tree bear much trimming? If so, what time of the year is best to do the work?—W. H. E., Eagle Rock.

Walnut trees do not require the heavy pruning that is needed by most of the deciduous fruit trees. The lower limbs should start at 4 to 5 feet from the ground, and in such a way as to have the heavy side of the tree to the southwest. A good rule for pruning is to cut off only those limbs in the way of the team when cultivating, or that will tend to draw the tree too much toward the northeast, or away from the prevailing winds, until the tree has reached its tenth or twelfth year and has a spread of twenty-five or thirty feet of branches. After this the inside spurs will not bear fruit, and should be taken out so as to give more light and air to the inside of the tree. It has been noticed that trees which are open do not have as much blight as those which grow so thick as to keep out the air and sunshine.

Pruning may be done at almost any time the orchadist is ready, except that it is not good to prune too heavily at the time the sap is rising in the spring. Some pruning at this time will do no harm, and has a tendency to retard the blooming, which is an advantage in some localities. The general winter pruning may be done as soon as the nuts are gathered. Any excessive growth that is made during the summer should be pinched back, or cut off at once, as may be necessary to preserve the shape of the tree.

FORTUNES IN ALFALFA.

Twelve or fifteen years ago the farmers of comparatively isolated Humboldt county found themselves on the verge of ruin. Their lands were fertile, the rainfall was sufficient to meet all demands of agriculture, banner crops were year after year harvested, but the expense of getting bulky crops to market made cultivation profitless. The Humboldt farmer was saved by the introduction of alfalfa. Fields that had been planted to oats, wheat and potatoes and cultivated at a loss immediately became profitable. Soon dairying became second only to lumber of the industries of the county. Humboldt butter became famous from one end of the coast to the other. The weekly shipments were enormous. Mortgages of years' standing were paid off. Ready money became plentiful. Humboldt county, even during the years of depression which followed the panic of 1893, was prosperous—consumers had to have butter and were willing to pay for it, and Humboldt had butter to sell.

In the San Joaquin Valley much the same results have followed the planting of alfalfa and the turning of heretofore profitless grain fields into dairy farms. Kings, Tulare and Fresno counties have within five years made tremendous strides as dairy counties. Dairying brings to them ready money all the year round, the surest guarantee of continued prosperity.

In the Sacramento Valley, while alfalfa growing is on the increase, the possibilities which it offers have scarcely been hinted at. Nowhere in the State, perhaps, are the advantages for raising alfalfa what they are here. It is well known that alfalfa does not do its best in the coast counties; and yet Humboldt has grown rich from alfalfa fields; in the San Joaquin the conditions of soil and climate are not the best for it, but lower San Joaquin farmers are raising it and prospering.

In the Sacramento Valley wherever the raising of alfalfa has been attempted the returns have far exceeded those of either of the sections mentioned. Here the conditions for its growth are ideal, climate, soil and plenty of moisture uniting to that end. Three and four and even five crops a year are cut. But the possibilities of the Sacramento Valley for alfalfa growing and dairying have not yet been realized as in Humboldt county, or even in Kings. This year it is an encouraging sign to see farmers turning heretofore unused fields into alfalfa pastures. It is a serious beginning of an industry which will eventually be one of the most important sources of the valley's wealth.—Encinal.

CATALPA A FOREST WONDER.

How a forest of extremely valuable timber may be grown in a score of years, and made a source of profit within six to eight years, will be demonstrated in an interesting exhibit at the World's Fair.

That particular variety of the catalpa tree known as speciosa will be the basis for this exhibit and the great value and adaptability of this wood will be shown in all forms. The catalpa is indigenous to the Wabash bottom lands in Illinois and Indiana, but may be grown in any section of the United States. The tree is known nearly everywhere, but its great value is just beginning to be understood. Nearly every boy knows the tree because of the long and slender seed pod, which when dried burns much like tobacco, and is often known as the "lady cigars."

It is the worth of the timber, and its marvelously quick growth, that is destined to solve the problem of future railroad building and furnish a supply of lumber for all purposes.

John Green of Santa Cruz writes us as follows: "I like your paper very much. It is progressive and getting ahead of others in the same line. I think it the best farm paper on the Pacific coast." And why is it the best? and why is it winning such popularity? Probably because of the corps of practical, intelligent field workers and writers which are furnishing matter for these columns. The scissors cut but a small figure in the makeup of this paper. Original stuff fresh from the field and the California field is demanded by California readers. The Cultivator supplies this.

That this has been appreciated by the readers the above shows, and has been made plain to the writer of this in a trip up the coast when he has come in contact with many into whose homes the Cultivator goes, and the above sentiment is more than confirmed.

That's why the Cultivator has had such a healthy growth during the past year. A net increase of 3000 in subscriptions isn't bad.

The long-looked-for 10,000 subscription list will soon be passed. Then for something bigger.

* * *

Meantime the pleased people are the advertisers. The greater number of readers the more extended the publicity given to the article advertised. More coin to the advertiser.

The Stearns Gas Engine Works appreciate this, and are still hammering away on the Stearns engines. Simple to run and simple to understand. This they keep telling to 10,000 folks in each week's Cultivator. Ten thousand? Yes, 40,000, for you know about four people read each Cultivator. They don't all read a Stearns ad., but some do, then go in and buy a Stearns engine.

* * *

While in San Francisco the other day the writer of this passed a window at 41 Market street with as pretty a flowing water scene as you usually see. It proved to be the salesroom of the Byron Jackson Machine Works. We stepped inside at once and saw a little Olds engine running like it had greased ball bearings and was simply running because no one came and stopped it. From it a belt ran to a centrifugal pump—a Jackson centrifugal pump—and the way that little outfit was throwing water up in the tank in the window was a caution. And with it all the engine after exploding the gas would run several revolutions before requiring another explosion.

We wondered if the Jackson runs exceptionally easy and turned to ask a salesman, but everybody was so busy selling pumps and things that there was no one to enquire of.

* * *

Just a little farther down the street—No. 33 Market—we ran into the Petaluma Incubator Co.'s San Francisco salesroom. Busy? Well! Mr. Taft was just off the train from Los Angeles. He would hardly stop to look at a Cultivator man. And then Emerson came in fresh from the exhibit at the big poultry show, of which he has charge. And he hadn't much time for common newspaper men. But they had to stop long enough to show photos of the shipments of pullets to Australia to participate in the next laying contest. The last, it will be remembered, was won by American birds. These photos showed six contestants. There are nine birds in each coop. The contest is to be by six pullets, but three extra are sent for emergency.

Mr. Byce, president of the Petaluma Incubator Co., Mr. Taft and their associates have justifiable pride in their part in securing and forwarding those contestants which resulted in such signal honor to American poultry in the last contest, and we trust will do as well this contest, which will begin in February and last for six months.

The contest is held in Sidney, Australia, and is in charge of A. A. Dunnicliff, honorary secretary laying competition. The six pens forwarded are as follows: Rose comb W. Leghorns, J. Monroe Anderson, Muncie, Ind.; silver penciled Wyandottes, E. G. Wyckoff, Itahaca, N. Y.; White Ply. Rocks, D. V. Roots, Connellsville, Ind.; R. I. Reds, Dr. J. Martin, Wichita, Kan.; White Wyandottes, Wm. Bates, Rockville Center, Long Island; S. C. W. Leghorns, Henry Van Dresser, Cableskill, N. Y.

An old rancher says the best poison for gophers is strycnnine. Put a little of it in a piece of carrot or in a raisin and drop it in the runway and put an old barley sack or a board over the opening so as to shut out the light.

An orchardist says: To get the number of trees that can be put on an acre by the equalateral triangle system, calculate the number of the square system, then add 15 per cent.

To drive away ants, mix tartar emetic and sugar, equal quantities, and place it about infested quarters. Use it carefully, as its effects will be decidedly unpleasant if taken by persons.

CITRUS STOCK

Season **Navels** **Navelencias** **Valencia Lates** **1904**

All stock two years old on four-year-old roots. First-class in every particular. Large, healthy, clean. No better anywhere. Write us for prices.

Mills & Masters

JAS. MILLS, Mgr. RIVERSIDE, CAL.

RIVERSIDE NURSERIES, Riverside, Cal. Fullerton, Cal., Oct. 24, 1903.

Dear Sirs—It is with no small degree of pride that I point to the orange orchard that I set out in June, 1902, with stock from your nurseries. I am not acquainted with any orchard of similar age that has done so well, and is today so promising. This certainly speaks in no uncertain language of the character of the stock coming from your nurseries. Very respectfully, CHARLES CHAPMAN.

LAND AND WATER

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

DATE CULTURE.

Letters have been received recently from Brawley, Dinuba, Oakdale and Calexico, California, and from Overton, Nevada, asking for information concerning date culture, and especially as to where seeds and suckers of date trees may be obtained.

L. E. S., at Overton wishes to know if we have any "Southern raised seeds" to spare, saying that he would like to try some in that part of Nevada. J. B. A., at Oakdale, desires to know where he can procure suckers of the variety Rhars and what the cost would be. T. H. Mc., at Dinuba, desires to know where he can procure the best date palms, "either seed, young plants or shoots" to plant at Imperial, saying that he should of course want male and female. J. C. F., Brawley, also desires Rhars dates, either the plants or seeds for a ranch in the Colorado desert. He also wishes to know when is the proper time to ship and plant them. J. E. P., Calexico, desires to know how and when to remove and plant suckers from some imported dates received through the Department of Agriculture and set out last May. He desires to know the best time of year for transplanting palms and how old and how large trees may be transplanted. He too desires to know whether we have any seed or seedlings for distribution.

These queries indicate a growing interest in date culture in the Southwest, an interest which has existed for several years, as has been plainly indicated by the large number of letters received here making inquiries upon the subject.

The climate and soil at Phoenix seem to be very well adapted to the culture of most of the desirable varieties of dates. This fruit requires a dry climate, with the summers hot and the winters not too cold, just such conditions as exist over Southern Arizona and Southern California. The young plants endure without injury temperatures as low as 20 degrees Fahrenheit, and the older trees endure temperatures several degrees below this. The time of blooming is after all danger of frost is over, and most of the fruit ripens before the heavy frosts of winter. Therefore it is only the foliage that is injured by heavy frosts. The central part of the plants have never been killed by the lowest temperatures that have occurred at Phoenix. A few young plants have been frozen to the ground, but in each case they grew up the following season and by fall gave little indication of having been injured by frost. No summer weather is too hot for them. They make the most growth during the warmest weather of summer. For at least one species, the Deglet Noor, the season at Phoenix is not long enough, or the fall not warm enough. The season of ripening of dates extends from early September to January. Amhat and many seedlings ripen their fruit during September. The fruit of the variety we have at the Station farm under the name of Seewah as well as the fruit of the seedlings ripens during October. A few seedling trees about Phoenix do not ripen their fruit until November, but the most of them ripen it previous to this month. The variety we have under the name of Amreeyeh or Amhai ripens its fruit during December and January, being most too late a variety for our climate.

Like most other fruits, dates may be propagated by seeds; but, also like most other fruits, the fruit from seedlings is of an uncertain character. Not only is this true of the date, but the sex is also uncertain. Unlike most other fruits, the pistils and the stamens of the date plants are situated upon different trees and half of those that grow from seeds are likely to be males and hence produce no fruit, while but one of these males to about twenty females being necessary. The only way to secure date plants of definite sex and character is to grow them from suckers removed from the base of bearing trees. During the first few years of the life of a date tree it produces suckers at the base freely just as does its relative, corn. When these suckers are a few years old they may be removed and the trees that grow from them will be just like the parent.

The proper time to plant seed is during fall or early winter, but they should not be transplanted until the warm weather of spring or summer. As dates grow only during warm weather, they should be transplanted only during weather that is suitable for their immediate growth. The removal and setting of suckers or seedlings may take place any time during April, May, June or July. The suckers should be removed with some roots if possible, and after being set out should be watered daily for at least a month. If seedlings are transplanted they must be removed with earth about their roots. Only a small percentage will grow if they are transplanted without this precaution. The larger the plants the larger the amount of earth that is necessary to remove with them. All or nearly all the roots that are cut or injured in any way die back to the plant. Hence it is important to remove the plants without exposing any more roots to the air than is absolutely necessary and without injuring any more of them than is necessary. If these precautions are observed very few will die and nearly all plants transplanted during warm weather will start to grow promptly.

Suckers, on the other hand, are very slow in making a start to grow, and make very little growth during the first season. In fact, at the end of the first summer, they may appear to be dead, but unless the center of the plant is decayed, they may be considered alive and likely to make a start to grow the coming season. As long as some leaves at the very center are green there is hope for the future of the plant.

The Rhars date, concerning which several correspondents have made inquiry, is one of the promising ones in the experimental orchard of the Arizona Experiment Station. However, as will be readily inferred from what has been already said, seeds from these trees cannot be counted on to produce fruit like the parent. While some of the seedlings might be like it, as in the case of other fruits, there could be no certainty in the matter; hence the only way to be sure to get Rhars dates would be to plant suckers from Rhars plants. The Arizona Station will have some of these plants for distribution in about two years, but, unfortunately, at present none of the many requests for suckers from this and other varieties can be complied with. It is not considered wise to remove suckers until they have attained sufficient size to make it possible for them to get a start when they are removed. The only source of suckers from this variety at present is the old world.

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CITRUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

TIME TO APPLY STABLE MANURE.

Editor Cultivator:—In the issue of November 20th, you discourage the application of stable manure on orange land during the fall and winter. Will you kindly tell when is the best time to apply? Also, I have an orange and lemon orchard, the land being disintegrated granite; have plenty of water. How can I best apply phosphoric acid as a fertilizer?—L. G., Sierra Madre.

Growers who have given the subject much thought and experimented at the same time are inclined to believe that nitrogen that is in an immediately available form, as is the case with barnyard manure, tends to make coarse fruit if applied just preceding the time of ripening. It is certain that the manure parts with its largest amount of nitrogen when it is first applied with water. It is also known that nitrogen produces or stimulates rapid growth and if given in excess produces sappy tissue. This is an undesirable condition for the tree or fruit at the beginning of cold weather. For this reason, we passed on the advice of our careful growers, to avoid applying stable manure in the fall and winter, but suggest that it should be applied in February or March. This brings the stimuius and the normal spring growth on at the same time.

The best method of applying phosphoric acid as a fertilizer is a problem that is still unsolved; at least in the minds of most growers. Some claim to have secured the best results from using a superphosphate. This is without doubt the best form as it is soluble in water and is carried with the water to the lower layers of soil. It is claimed that the phosphate soon becomes reverted into a water-insoluble form, but is much more finely divided and placed deeper that would otherwise be possible. In this condition and position it seems reasonable to suppose that the greatest good could be derived from it. The only apparent improvement on this method seems to be the use of phosphate fertilizers applied with some annual plant, preferably a legume. In such case, the annual plant takes up the fertilizer and with its rapid and highly assimilative working system, not only gets the element into a form that is easily taken up by the trees, but distributes it to all parts of the soil where the roots of the annual crops penetrate. This is deeper than it is possible to place the fertilizer by mechanical means. Roots of these plants penetrate much deeper than the fertilizer is placed.

* * *

SPLIT ORANGES. PRUNING ORANGE TREES.

Editor Cultivator:—Will you please tell me the cause of orange spliting and what is to be done to prevent it? Is pruning the way to correct an orange tree that resembles a deciduous tree, being open and its branches strangled?—F. W. W., Highland.

We would be delighted to give you an answer that would satisfy the question of "Why do oranges split?" The department at Washington has a man working on this problem. It has been discussed through the columns of this paper a number of times, and only theories have been advanced. No results from experience have given any satisfaction. It is believed to be some weakness of the navel, as the splitting, with rare exceptions, takes place at that point. There are always some splits each season, some seasons show more than others. We have noticed that some varieties, Jaffa for instance, produce fully 90 per cent of splits in some localities every year. This orange invariably has double navels, but they are more perfect than the navels in the Washington Navel. There is a theory that the navel provides an entrance for germs that might break down or weaken the tissues of the rind at that point. This would stop the natural development of the rind at that point and it must give way there in order to make room for the expanding pulp. This theory is apparently supported by the fact that seedling oranges, which have no navel, seldom crack; such cases do not have the splits always at the blossom end. Occasionally a Navel orange splits on the side. This all goes to show that the navel is not responsible for all of the splitting. We have no data showing that orchards fertilized in any particular way are more free from splits than others or vice versa.

Pruning of the orange should be confined to the cutting back of straggling branches and cutting out useless wood that forms in the interior of the tree. Open spaces will soon become filled by sprouts that grow out of them. An orange tree that has an uneven growth may be made symetrical by the heading in of the outreaching branches.

* * *

COCOANUT GROWING.

A subscriber wants to know if the cocoanut can be grown in California and what kind of soil is the best, water required and methods of culture.

The cocoanut may be grown in California along the coast where frosts are unknown. It will grow and thrive in interior locations free from frost, but will not produce crops of any account. It requires the salt brackish water to produce good crops. Soil that is pure sand and grit produces the cocoanut crops of commerce and the crop being one that yields very little profit, no fertilizing is ever done.

Cocoanut trees are started by planting the nuts on their sides in trenches. The husk is left on and the whole thing covered about 4 to 6 inches deep with sand. The nuts may be placed thickly in the trenches, and when the seed leaves are well started, they are taken out and planted about 20 feet apart. Weeds are usually kept out the first two or three years; otherwise no cultivation is given.

Care is required in selecting seeds for planting groves. Quality, productiveness and thickness of meat are the three points to be kept in view. The cocoanut is like other nuts and fruits; some seedlings are better than others, and as the trees cannot be budded or grafted, careful selection is necessary. The nuts must be perfectly ripe before planting.

DECIDUOUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

RUBBER ON THE COLORADO RIVER.

Editor Cultivator:—Wil you please tell me if the rubber of commerce can be grown at a profit on the Colorado desert when the government puts water on it?—J. C. D., Grass Valley.

It depends upon the temperature during the coldest period of the year. The rubber tree will not make a thrifty growth where the temperature falls below freezing point. Trees will stand some frost after they have made a growth of ten or twenty feet, but the young trees will be killed to the ground when 32 degrees is reached. There may be places on the Colorado desert where they will grow well. These places cannot be located without experience. We would look for better success in a humid atmosphere as that is the sort of condition under which the rubber trees grow naturally.

* * *

PRUNING EASTERN GRAPES.

Editor Cultivator:—Would you kindly inform us whether you grow the eastern grapes, Agawam and Lindley, with long canes on wires or cut back to three buds, as pruning on European stock is done at Florin and other places?—Subscriber.

The two varieties should be pruned long. Be sure to leave a spur with two buds at the base of each cane that is left long so as to be able to renew the vine without sacrificing the old wood or getting the vine out of shape.

* * *

LENOIR VINES AND ANAHEIM DISEASE.

Editor Cultivator:—Will you please tell me what you know about the Lenoir grape and the Anaheim disease. If it is resistant I would like to know it.—W. R. S., Compton.

It has been discovered that the Lenoir grape has a certain resistance to the Anaheim disease and also exerts a certain amount of influence on the vine which is grafted on it. We do not know how much we can rely on its power of resistance. That is something to be determined. Its most useful office may lie in its being used to cross other varieties on. Lenoir is a fairly good grape itself and no doubt will improve upon crossing and is very apt to transmit its power of resistance to the Anaheim disease to some of its offspring. We do not understand that it will render other varieties immune when grafted upon it to an extent that will warrant planting on a commercial scale, though it is perhaps after all the best resistant vine known today, all things considered, in the case of phyloxera. We would not hesitate to use the cuttings for stock.

TOPSY'S FULL NAME.

"Mamma, what is Topsy's other name?"

"Topsy in the play? I don't know, dear; I guess she hasn't any other name. It's just Topsy, that's all."

"O, she has another name. I heard papa speak it yesterday, but I can't think of it now. O, yes, I remember—it's Topsy Turvey!"—Kansas City Journal.

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We are now opening our sales yard at No. 632 S. Spring St., Los Angeles. We will soon have on hand a full line of northern as well as home-grown Deciduous Trees in quantity. Also some of finest Citrus Trees grown in the South. Having had between 26 and 30 years' experience in fruit and tree planting, we are enabled to offer suggestions as to best and most profitable varieties for Southern California. Ornamentals and Trees for street and lawn planting. Yours truly,

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J. W. BAIRSTOW, HANFORD, CAL.

Conducted by PROF. A. J. COOK, Claremont, Cal

The editor of this department will be glad to receive insects or plants that interest the subscribers for the CULTIVATOR, and will engage to identify and name the same, and, so far as possible, advise treatment in case the species are harmful. Insects should be put in close, strong boxes. They need no air other than the box affords. All possible information regarding the habits of insects should be sent with the specimens.

A. B. C. OF INSECTS

(Continued)

It is now definitely proved that we owe malaria to mosquitoes. As with cattle that have had Texas fever, the person that has had malaria has the germs of the disease in the blood. These are minute Protozoans, known as sporozoans. They are, however, or may be benign, but once borne by the mosquito to the blood of another, they produce the dread disease that is so often fatal. We used to think that the mosquito was valuable in that the larvae or wrigglers ate the germs of malaria in the water of the swamps. We know now that the germs are not in the water at all. They are in the blood, and if not carried to the blood of another they would cease to do harm, and malaria would cease to work its terrible havoc. If we permit no water to serve as a breeding place for the mosquitoes, or if we use kerosene in the pools to kill all of the wrigglers, we would have no more malarial fevers. In just the same way if we could exterminate the Texas tick we would banish the Texas fever among our cattle.

* * *

The Bot Flies—These are curious insects. The mature flies have no mouth organs to speak of and so can not bite at all. They annoy the cattle, the sheep or the horses, as the case may be, simply by their buzzing presence. They lay their eggs about the sheep's nose. The maggots, often called grubs, work up the nose and kill sheep sometimes. Tar on the nose of sheep will keep the flies from laying their eggs. In case of cattle and horses the flies lay their eggs near the mouth, or in places that the animal cannot reach with its tongue. As the eggs hatch, the moggot is lapped up by horse or cow and in the horse passes to the stomach, while in cattle it works its way through the connective tissues to the back where it burrows and develops under the skin, causing the well known tumors. I must doubt if bots injure horses very much. The worst case of bots that I ever saw, I took from a horse that was drowned in fording a stream. The bots were very numerous and nearly grown, and yet the horse had never been sick a day in its life. Such cases are too common to be exceptions. I doubt if cattle bot flies do any great harm except as they perforate the skin and make them much less valuable in case the animal is killed and the hide is sold. I found cattle bot flies much less numerous in Machigan after the forests were somewhat cut away. I think the flies are favored by shade. All the bot-flies pupate in the ground.

I do not think I have said before that several families of flies live as larvae in water. Thus the mosquito is not alone in this respect. The long-legged crane flies, very common in California, often called daddy-long-legs, have this peculiarity.

* * *

Injurious Species—I shall have little to say of injurious species. I referred in the last article to the Athomyia. The maggots of these flies do serious damage to onions, radishes and cabbages in the East. They work just below the ground. They injure the radishes for eating and utterly destroy onions and cabbages. I found several years ago that I could destroy these by the use of bi-sulphide of carbon and not injure the plants. In fact, I constructed a little machine, much like a hand corn planter, by which I could apply the liquid very rapidly and use just the amount that I wished. I could apply the liquid as one could plant corn with a corn planter, and by stepping each time on the spot treated, the liquid was kept from volatizing.

* * *

The Trypeta—I was also familiar in Michigan with the apple Trypeta. This was at times considered a scourge. It was worse than the codling moth as there were several maggots in each fruit, and so one never felt safe in taking even a small bite. We know that the codling moth destroys only the part about the core. The affected apples, however, were easily felled to the ground, and I found that by feeding these to hogs or cattle it was not hard to hold the Trypeta in check. The Mexican orange maggot is also a Trypeta. It would also ruin the fruit utterly, and as the orange is not so ready to fall as the apple, I fear this insect would be much harder to successfully fight than the other. The flies of both Anthamyia and Trypeta are much like common house flies. The Trypeta have clouded wings. The pupa of all of these are always found in the ground. Another reason why we should be very zealous to prevent importation of the Trypeta is the fact that they seem to have few enemies. We cannot be too insistant in our efforts to keep this fly as also the white fly of Florida, which, we will remember, belongs to the bug order, from gaining entrance into our state.

* * *

The Hessian Fly and Midges—These flies, though very minute, much smaller, even, than the mosquito, are so prodigously numerous that they often cause tremendous damage. I doubt if any other insects in the country do more. They rank in this respect with the chinch bugs and western locusts. The Hessian fly works just at the base of the stalk under the leaf, while the midges destroy the kernel of wheat and the seed of the clover. Some of these little flies are brightly colored, either yellow or orange, and I have seen them so thick that the color was observable for a long distance. While the Hessian fly and wheat midge have done most serious injury to our American agriculture, often destroying millions of dollars' worth of wheat in a single year, yet I believe that the clover seed midge may prove the worst enemy of the three. Clover as a legume is so valuable in adding to the fertility of the soil and its destruction would be a national calamity. We all know that red clover, our best species, soon runs out, and so the ground must be reseeded. Of course, if the midge destroys all the seed, this will be quite impossible.

Sheep Tick—These well known animals of course are not ticks at all, but are wingless diptera. Farmers usually notice the mature tick and the rounded pupa, which they suppose is the egg. The egg, however, hatches inside the mother, and the entire larval growth precedes birth, so that the insect is born as the pupa. The larva lives in a sort of uterus and feeds on a secretion which, however, is absorbed, and not eaten.

* * *

BEAN WEEVILS.

George G. Mathews, Azusa, sends some beans that are fairly riddled with the grub of the bean weevil. I am asked to give ways to prevent such ravages. They were planted last spring and harvested in November. Though not Lima, they closely resemble that variety. They are pole beans, and bear well. Mr. M. sent some of the beans and they are badly tunneled. Some of them have a large number of holes in them and have fed as many grubs.

This is the common and destructive bean weevil, Bruchus fabae. The beetle is as wide as long and the elytra or wing covers are short so that they do not cover the tip of the body. Like the closely related pea weevil which they resemble not a little, they lay their eggs on the green pod and the larva or footless grub eats the young growing bean. The pea weevil stops here for that season, but not so the bean weevil. It continues to lay eggs and feed on the stored beans. We see how it is that the beans become so riddled with holes and why the beans become worse and worse the season through. There is but one brood of the pea weevil in a year and it only works on the green peas, and no more peas are injured after the peas are threshed. There are on the other hand several broods of the bean weevils and they work on the dried as well as the green kernels, and the beans become more and more injured the season through.

The remedy is the same for both these insects. They quickly succumb to bisulphide of carbon. If the grain is put in a close barrel, box, bin or granary, and the liquid turned on and the barrel, etc., quickly covered so that no fumes can escape, we will soon kill all of the weevils. A small teacupful of the liquid will do for a large barrel of beans or peas. In case of peas this will not lessen the damage for that season, but the weevils will be killed and can lay no eggs for the next year. We treat peas to prevent injury the next season. If no one would sow affected peas or beans, the evil would cease in our fields and gardens. With beans we accomplish all that we do for the peas and more, for we stop the work for the year, which otherwise would go right on for the whole season. In Northern New York they have special houses for treating peas and beans so that they can sell sound seed. I once visited St. Lawrence county, in Northern New York, and saw several of these houses.

* * *

BEANS.

Subscriber, Orange, asks if Lima beans will grow on gravelly soil, if they can be irrigated, and how much, if they can be grown in a small way, and how and when they should be planted. He also wishes to know how to plant peas to fertilize the orchard when they must be irrigated.

Beans can be grown on gravelly soil if not too coarse and loose. They would do better, however, on a loamy soil. Even a clay loam will give good crops if rightly handled. They may be irrigated and better be if they will not grow well without it. In the field this would be too costly. They are grown in Ventura and Santa Barbara counties without irrigation. It would be hard to compete with these growers if irrigation was necessary. They are planted in the spring as soon as danger of frosts is over and in the garden may be planted in hills and poled, and in the field in drills.

* * *

Peas for fertilizing the orchard should be planted in drills in September. The ground may be furrowed so as to permit irrigation when necessary. A little treated bone meal applied deeply in the soil at time of planting will help both orchard and peas.

* * *

DISTILLATE SPRAY.

Mr. John Thille of Santa Paula asks if distillate spray will kill brown and black scale on apricot trees. It will kill any scale that is not too far matured. Neither it nor fumigation will kill the mature scale. I should not expect that a well mixed two per cent. solution would injure buds. The time to spray, of course, is when the scale insects are young, so that all will be killed. I presume that September would be the best time to do this work. I shall be glad to see some of the brown scale that I may know the species.

* * *

TREES FOR STREET AND PARK.

Mrs. James A. Reese of Long Beach wishes advice as to how and what to plant on their streets. They wish to do it the best way. She also wishes me to advise as to planting their parks, and especially their school grounds. I would advise that Mrs. Reese get the Cultivator for October 30 and read what Mr. Braunton says on the subject.

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Three acres young strawberries; balance alfalfa and garden. Horse, cow, buggy and farming implements.

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Two and one-half acres new strawberries,

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One acre strawberries, 3 acres apple orchard; 7-room house; barn. Easy terms.

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Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

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FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, sheds, corrals, etc. Plenty of water for irrigation and domestic use.

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POMONA, CAL.

Coast News and Notes

BY R. A. DAGUE, COR. SUTTER AND SANSOME STS., SAN FRANCISCO

HORTICULTURE.

Oranges are now being shipped out of Orange at the rate of about seven or eight carloads daily.

Half of the lemon crop of the Messina district (Italy) was destroyed by a terrific hail storm December 10th.

Several carloads of oranges have, this season, been shipped to Australia from Palermo, Butte county.

It is stated that large consignments of almonds will be shipped this winter to the United States from Italy.

The California State Floral society will hold an early spring flower show during the month of March, 1904.

The almond crop of Spain was so light this year, that American growers anticipate a good market for their goods.

Orange shipments from Lindsay, and Porterville, have for the past three weeks, averaged about 75 car loads per week.

The Santa Fe shipped 225 carloads of oranges from San Bernardino to eastern points the 8th, 9th and 10th instants, for the holiday trade.

The orange growers of Alhambra have orders for about 20 carloads of oranges for the holidays. The fruit this year is sweet and well colored.

The first carload of oranges to go out of Anaheim, this season, was the Thompson improved navel, and were from the orchard of Mrs. Langeberger.

The orange pickers of the Lindsey district, Tulare county, were paid 20 cents per hour, but last week struck for 25 cents. Most of the growers acceded to the demands of the pickers.

The shipment of dried prunes from Sonoma county is now lively. Until quite recently nearly all its shipments went to Europe. Now they are going to eastern cities.

California shipped 6,770,000 pounds of walnuts in 1895. They increased steadily until 1900, when we shipped 10,800,000 pounds. The output kept increasing until this year, when there is a shortage.

The prune growers of Santa Clara county are still holding for a 3 cent basis. The demand for the fruit in the east is increasing, and they believe they will soon get the price they ask, and that in a short time heavy shipments will be made.

Malcom Morrison of New Zealand is now in California studying our system of fruit growing. He says that many of the Burbank fruits are growing very successfully in Australia, and he hopes to introduce them and other California products in his country.

Last year the codling moth damaged the apple crop in the Watsonville district to the amount of $500,000. This year it is estimated that the efforts made by the university professors to destroy the pest saved the orchardists more than $100,000.

S. M. Woodbridge, of Los Angeles, professor in the academy of science of Southern California, recently spent some time in Tulare county studying the diseases of the citrus and deciduous trees there. As he is an accomplished chemist, his published report will be read with great interest.

The Santa Fe is expending two millions of dollars on their yards in San Francisco, which does not include cost of buildings. They have recently purchased the North Shore line, and will extend it up into the timber regions of Northern California. The general offices of the company will be removed from Los Angeles to San Francisco.

The Supervisors of Monterey and Santa Cruz counties, have made liberal appropriations to be expended in destroying the codling moth. The first expenditure is to be made in fumigating carloads of apples and large quantities of fruit in warehouses with hydrocyanic acid gas to destroy the eggs of the moth.

A very valuable book for California farmers is being printed by the United States government, which will be distributed at 50 cents each by the California Promotion committee. It will give reliable data regarding Pacific Coast climate, rain precipitation, and exhaustive treatises on the protection of citrus fruits from frost.

Professor F. E. L. Beale, United State ornithologists, and J. S. Hunter, of the California University, have given the bird pest a careful investigation in the orchards of the Pajaro valley. They killed 1,300 birds. They say that the birds are not pests, but benefactors, as they prey on the codling moth and other insects.

A mathematician has figured out that the apple crop this year in the United States amounts to 50,000,000 barrels, or 30,000,000,000 single apples; or 375 apples to every man, woman and child. He says 75,000,000 apples can easily be grown on a square mile, and that the entire apple crop now raised might be grown in one county of average size.

The Davisville Almond Growers held a meeting last week, when the secretary reported that the association shipped this season 253 1-3 tons; in round numbers 25 carloads of 10 tons each, valued at $48,069; of shelled almonds about 4 tons, valued at $1,400, making a grand total output of $49,469 for the season. The association's expenses for the season were $407.94.

AGRICULTURE.

Egyptian corn made a good crop this year in the Farmersville district.

The aggregate value of the products of all the farms in the United States is $5,000,000,000 per year.

The buckwheat crop, last year, in the United States, amounted to 9,566,966 bushels worth $5,341,413.

The farmers of Sonoma county, and other parts of Central California, are now generally engaged in following the plow.

The pea is a native of the south of Europe, and has been cultivated so long that history does not record its advent.

Farmers of Oregon got anxious over the prices of wheat, and within the past week sold 250,000 bushels at 65 cents.

Authorized agents are negotiating for several thousands of acres of lands in Grass Valley on which a large colony of Scandinavians will locate.

Representative Bell of this State, his introduced into Congress a "Pure Wine Bill." The chief purpose of the bill is to prevent wine adulteration and the use of false labels.

The Woodland cannery, this season, canned fruits and vegetables as follows: Apricots, 8,922 cases; peaches, 11,911; blackberries, 495; tomatoes, 17,025; beans, 763.

John Heaney has leased 350 acres on Merritt island, in the Sacramento river, and will plant it to hemp, and will remove his mill and works to that locality from Butte county.

The news of the partial failure of the cotton crop of the South, has had a damaging effect on the textile trade throughout the world. Some cotton mills contemplate suspension of business.

The grape season is just about over. The eastern market held good to the last. Among the last sold in Chicago brought $1780 and $1809 per car respectively. They were the Emperors and went from Fresno.

In Laramie county, Colorado, alfalfa raising was becoming unprofitable two years ago. Then the farmers began feeding it to lambs. This they found profitable. Now 300,000 lambs are being fed on alfalfa.

This is the middle of December, and yet there may be seen at our fruit stands fine strawberries, ripe raspberries, great clusters of grapes, green onions, green peas, ripe tomatoes and many other varieties of fresh vegetables.

Henry T. Oxnard, and the American Beet Sugar Company, will erect a

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Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

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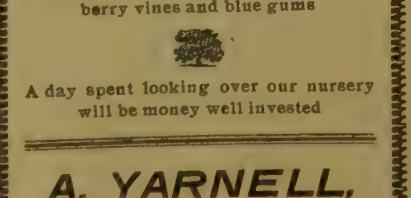

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Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings. etc.
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Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

F. C. WILLSON, Prop

THE

Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,

Station K, LOS ANGELES, Cal.

Coast News and Notes

CONTINUED .

sugar factory at Lamar, Colorado, at a cost of $1,000,000. Four thousand farmers have contracted to grow beets for the factory for five years at a stipulated price.

Returns to the chief of the bureau of statistics of the department of agriculture indicate that the newly-seeded area of winter wheat is about 32,000.000 acres, a decrease of 6 per cent. from the area estimated to have been sown in the fall of 1902.

J. F. Sullinger and other farmers, near Farmersville, this year, threshed their alfalfa. They got 300 pounds of seed per acre which they sold at 12½ cents per pound. This seed was derived from the second crop. The straw makes excellent stock feed.

Hawaii produced, this year, the largest sugar crop ever raised in the islands. Here is the official report for ten years: 1894, 166,432 tons; 1895, 149,627; 1896, 225,828; 1897, 251,126; 1898, 229,414; 1899, 282,807; 1900, 289,544; 1901, 360,038; 1902, 355,611; 1903, 437,991.

E. G. Williams & Son, of Lodi, got this season, the tip-top market price for grapes in New York. They were of the Morocco variety, and sold for $5 per crate. It cost but 80 cents per crate to lay them down in New York. Williams & Son will plant out larger vineyards of the Moroccos.

The Orosi Offer says that Horace Whittaker brought a bunch of barley to that office the other day containing over 300 stalks, the growth from one seed, from which 270 heads of well filled grain were clipped. The sample was grown on the Whittaker place, three miles east of Orosi.

Mr. McClosky of Antioch, has returned from Corea, and Japan, where he went last July, to investigate the methods of growing ginsing. So far it has not been much raised in California. Mr. McClosky procured a quantity of seed, and will plant it in Southern, Central and Northern California and hopes to build up a large industry.

The United States Department of Agriculture estimates that 233,000 tons of beet sugar will be produced in this country this year, to wit: In Michigan, 74,000 tons; Colorado, 44,000 tons; California, 62,000 tons. Eleven new factories have been established during the year—six in Michigan, three in Colorado, one in Utah, and one in Idaho.

The live stock men of the counties of Ventura, Santa Barbara and San Luis Obispo, held a convention at Santa Barbara, on the 7th instant. They met to devise ways and means for combating the Texas fever, which exists in those counties. Dr. Blemer, State Veterinarian, was present and made an address. It was decided that the "oil dip" should be tried. Owners are urged to excavate large ponds and give the animals the oil treatment.

M. B. Woodworth, U. S. District Attorney, has been investigating the Fresno Raisin Growers' Association to ascertain if it is an unlawful trust. He says: "I have been investigating the matter, and I have not yet reached a conclusion. It is not the policy of the administration to proceed against a combination because it is a combination, and the United States cannot repress a combination unless it is of an interstate character. The Administration will not seek to repress a combinaiton unless it is injurious to the public and puts up prices, and is in restraint of trade."

When Porter Brothers failed a few months ago, they had debts aggregating about $1,700,000. On the other hand they own several valuable warehouses in different parts of the State. The orchardists also owe the firm about $250,000 money advanced to the growers. Now it is said that the reorganized Earl Fruit Company, controlled by the Armours, will soon become owners of the Porter warehouses and other property, but notwithstanding the deal, the creditors of Porter Brothers will not receive over 30 cents on the dollar.

LIVE STOCK.

W. H. Brockman, recently lost 300 sheep by drowning near Nevada City.

New dairy buildings are in process of erection at Niles. The cow barn is to be 110 by 125 feet; 264 milch cows will be sheltered.

The feed for cattle is short in the mountains of Southern and Central California, and the stock is being brought down into the valleys.

The San Jose Mercury is authority for the statement that an ostrich farm is to be established in the Santa Clara valley.

About 125,000 sheep that were kept in the mountains this summer, have been driven into Kern county to winter.

France enforces such rigid sanitary measures against American fresh meat and cattle, that our trade with that country in that line, is very limited.

The Cutler Brothers, live stock dealers, of Tulare county, have sold the past three months, a good many hogs. A careful record of weights of those sold has been kept. They averaged 220 pounds each.

A poultry raiser says: Some farmers may smile at the thought of feeding hay to fowls, but they will find chickens very greedy to consume finely chopped steamed clover hay mixed with ground corn, oats, and other grains.

The Santa Rosa Republican, alluding to the steady weekly shipments of eastern poultry into San Francisco, says; California ought to be shipping great quantities of poultry east instead of having it come to us. This is a subject that should receive more attention in the Farmers' Institutes.

MISCELLANEOUS.

The counties of Tulare, Kings and Kern have agreed to make a joint exhibit at the St. Louis exposition.

The Patterson ranch of 400 acres, near Woodville, is being subdivided into small tracts and offered for sale.

The oil pipe line from Bakersfield to Point Richmond, that cost a large sum of money, is a failure. It will not transmit the oil successfully.

The Oscar Walton farm, near Yuba City, is being divided up into small tracts and sold at about $60 per acre. Some of the purchasers will plant their lands to almond trees.

The commerce of Panama amounts to about $3,000,000 per annum, its population to about 300,000, and its area to 31,571 square miles, or nearly equal to that of the State of Indiana.

The fruit drier of Colombet Brothers, in Santa Clara county, was burned on the 6th, together with 4,000 trays, 2,000 fruit boxes, a prune grader, an engine and other appliances. The loss is about $5,000.

In 1881 there was expended annually by the American people $900,000,000 for alcoholic liquors and in 1902 there was paid out $1,226,000,000, an increase in eleven years of $326,000,000 per annum.

Work has commenced to reclaim 41,000 acres in Kings county. Thirty miles of levee will be constructed, and the overflow waters from the Kings river, will be turned into the San Joaquin river. Fifty four-horse teams are now engaged in the work.

The Southern Pacific Railroad is, as rapidly as possible, converting their coal-burning locomotives into oil burners. Of their 1,400 engines, 650 are now using oil fuel. The officials say the oil fields of Kern county are exhaustless.

Four wholesale fruit dealers had their permits to do business on state property at the San Francisco wharf revoked because they violated the Woodward law, which forbid combination against producers and consumers. Now their attorney announces they will attack the constutionality of the law.

STRAWBERRY PLANTS

I have for sale several thousand Arizona Everbearing Strawberry Plants. Very thrifty.

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Blackberry, Raspberry, Loganberry, Strawberry. Full line of Nursery Stock.

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Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
For descriptive list address

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150,000 Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

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BRANDYWINE STRAWBERRY PLANTS

Well rooted plants on good, vigorous stock. Price, $1.50 per thousand.

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We also manufacture and sell **SUNSET INCUBATORS** and a full line of Creamery and Dairy Supplies, Boilers and Engines. Write us for catalogue, price lists, etc., and state number of cows you milk, or call at our salesrooms.

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108 N. Los Angeles St., Los Angeles, Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

TOO MUCH OIL CAKE AND PUMPKIN.

Editor Cultivator—I am seriously hampered with hard butter, can you advise as to feeding or the handling of cream to make a softer product and reduce labor in moulding, etc.?

Have two young Jerseys, fresh in October and November. Am feeding one pound each per day linseed oil cake meal mixed dry in alfalfa leaves, 40 to 50 pounds pumpkins, two feeds clean hay and one feed of clean corn stover cut and cured when grain was fairly matured but stalks green (grain is removed). Even the cream seems "tallowy" and have to churn at about 70 degrees. Butter flavor and color is good but is far too hard. Is the trouble with the cows or can I make a ration from the above feedstuff that will help.—"Home Dairy."

I would say you are feeding too much oil cake meal and pumpkins. Try about one-fourth pound of the former and not over 25 pounds of pumpkins and let them eat all the alfalfa hay they want. The corn stover will do no harm. If you were not churning at 70 degrees, I should advise doing so, but could hardly recommend any higher temperature. If this change of feeding does not help, please let us know and I will see if another combination can be arranged. —C. H. Sessions.

BUTTER THAT WILL KEEP.

In a paper read recently before the Minnesota Dairymen's association by Mr. B. D. White, it was pointed out that the most difficult thing in butter making is to make an article which will keep its flavor long enough to teach the consumer without any perceptible deterioration. The only difference between high grade creamery and low grade dairy butter is in the aroma and flavor. So far as the lubricating qualities, or the value as a food is concerned, the low grade is as valuable as the high grade and goes a great deal further and lasts longer. The public pays for the fine aroma and flavor in butter the same as it pays for high, delicately flavored goods of any nature. A housewife buys certain grades of flour, fruits, or certain parts of animals because of their flavor.

There is nothing which compares in delicacy with butter, and the delicate flavors sought for disappear and noxious flavors take their place; however, under certain conditions the fine flavor can be retained for a longer time. Just at what stage of the process of manufacture the product becomes contaminated, whether before the milk arrives at the creamery, during the time of making the butter in the creamery, or after it is made, is sometimes difficult to tell.

Perhaps 99 per cent of the creamery butter is edible, and would pass as marketable goods and would be consumed by the average person without serious complaint, if it would retain the aroma and flavor it had when it left the churn. Flavors of odors, whether good or bad, are absorbed by the milk, cream, or butter. Milk can have a bad flavor when it is drawn from the cow, caused by the cow eating strong scented food, such as grasses, weeds, or decayed vegetables. The flavor such as is produced by some weeds and is only perceptible to the taste, gives the butter maker more trouble than the odors which are volatile and easily detected by the smell, such as onion, garlic, or decayed vegetable flavors. Then there are the odors which are produced by bad smelling stables, cow yards, pig pens, kitchen odors, tobacco odors, etc., and last, the odors or flavors produced by bacteria which are caused by cows, utensils, and surroundings in an unclean condition. All such flavors are detected by the trained maker and the milk not up to a certain standard or which can not be manufactured into a first class article should be rejected, and is rejected in the well regulated creameries. All of these bad flavors have their effect on the keeping qualities of butter according to the degree the flavor exists; however, it depends largely upon the butter maker just how long they can kept down. The less there is the longer it can be kept covered up by the proper use of a good starter, and the more there is the sooner it will take the place of the good flavor and the sooner will the butter go off grade and depreciate in value.

FEEDING THE HORSE.

There is a palpable injustice done to horses, in this country, in scanting their feed. Teams are seen on the streets of our towns and cities every day that are hardly able to go about because of weakness from lack of feed. How can a farmer, a drayman or liveryman expect his horses to do good work if he starves them? How can a man do satisfactorily a good day's work when he is underfed. Physical life is sustained only when supported by nourishing food and pure drink. No horse is fit to work or drive that is ready to fall from ill treatment and starvation is ill treatment in one of its worst forms. There is no animal more necessary to man's comfort and pleasure than the horse, and there is no animal, except the dog, so meanly and persistently meanly treated. We usually feed the cows because if they are not fed they will cease to be of any service, but we starve the horse and still expect him to do the same amount of work he ought to do when given all he needs. It is a wrong every man guilty of should right, but if he does not the officers of the humane society in every county in the state should see to it that the horse which is starved is taken from the farm and the road and put into a veterinary hospital and adequately fed and the bill charged up to the owner of the animal.

Cows give a more regular quantity in winter and the milk is more uniform in quality than in summer, because the feed is of a regular quality and quantity in winter, but often very irregular in summer, owing to the varying condition of the pasture.

The weather during the week was cool and partly cloudy in most sections, becoming warmer toward the close. Light rain fell in the central and northern districts on the 12th and 13th. Heavy frosts occurred in nearly all sections at the beginning of the week, but no material injury resulted.

Early wheat and oats in the central and northern sections are in excellent condition and making good growth, but in the southern districts these crops are backward, owing to light rainfall. Green feed is abundant except in the south, and cattle are improving rapidly. In all places where the rainfall has been ample the soil is in excellent condition for cultivation, and plowing and seeding are progressing. The rain of the preceding week in Southern California was too light to improve the soil or pasturage.

Orange harvest is progressing rapidly in the different districts, and large shipments are being made for the holiday trade. Dried fruits are also being shipped in considerable quantities. The frosts have caused no material injury except to unpicked olives in some sections; the fruit became too soft for pickling and will be used for oil.

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Offers For Sale TWO HOLSTEIN BULLS Now in Use in Herd

LEGAL TENDER BLANCO, 26943
Mostly black. Dropped January 1, 1900

SIRE — Nero Blanco, 25002. His eldest daughter, Eva Blanco, 2 years old, has an official record of 14 lbs.. 5 oz. in 7 days.

DAM—Legal Tender, 42315. Private record of 379 lbs. of butter in a year.

SIMONDA DE KOL
Registry applied for. Dropped Nov. 12, 1900. White with black tips to ears and small spots.

SIRE—Ignaro De Kol, 23533. Sire, Johanna 5th. Paul De Kol. Dam, Cascade Princess, official record 17 lbs. in 7 days.

DAM—Mamie Clifden Judith, 43191. Private record of 72 lbs. in 30 days. Average test, 4.2.

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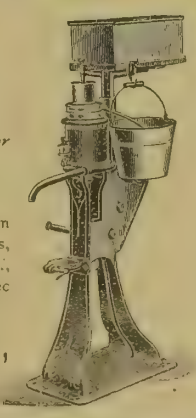

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About Clipping Horses Just Before Winter.

Among horsemen there may be but one general opinion on the custom of clipping horses just before winter sets in, which may be in favor of the custom, such opinion being the result of practical experience, untrammeled by the theoretical argument, writes the veterinary editor of the Baltimore Sun. To an extent the clipping of riding and driving horses may be classed as a beneficial custom to the horse and its driver. When the clipped horse and its driver have a "waiting job," for a while outside a residence or a store on a cold, bleak day the driver will tell you how his teeth have been chattering in the cold and how his horse has been standing with "his four feet in a peck measure," so to speak, with his body all in a heap, shaking like an aspen leaf. But this is not the practical expericence referred to. The practical experience referred to is this: The horse is easier to clean and keep clean, dries off soon after entering the stable, and is soon made comfortable, whereas the unclipped horse continues damp and chilly all night and is found so in the morning.

The driver says, "O, the horse goes as frisky again when clipped, and seems more lively in every way, both going and standing still or stopping." Stopping is a better term, for the horse will not stand still very long. He wants to be on the move, instead, to keep himself fairly warm, and the driver keeps himself fairly warm trying to make the horse stand still.

We will not deny that clipping is beneficial, while standing about is not, to keep himself warm, and the horse blankets must be furnished for comfort to lower the risk of lung trouble or chills and what follows, but no covering will prevent this when exposure is allowed to go on till the body is chilled through and through.

If the bodies of the horses are clipped the legs should be held sacred to the clipper. Nature has furnished a splendid legwear to protect them from the wet and frost of winter.

The rain runs off the hairy legs and the hair maintains the heat beneath. Remove the hair, the protection from cold is gone, then cracked heels result and swollen extremeties follow as a reward for interference with nature.

Clipping the legs results in cracked heels, scratches and the disease treated recently in this column, i. e., lymphangitis.

Exposure of legs denuded of their natural covering in inclement weather gives rise to severe chill, the delicate glands and vessels become inflamed, the legs swell as a result, become hot and painful, the animal becomes lame and the doctor has a case which will give him some trouble and anxiety to put on the road again, for the least exposure during ordinary winter weather often brings about a return of the trouble.

Let a man having a full beard get a clean shave and then go around as usual; he will experience something of the exposure.

Work horses, light or heavy, should be allowed all the protection the legs can grow, and lazy horsekeepers should be encouraged to wake up and dry the legs every night, and during snow and slush let them rub some crude vaseline into the heels and down the legs; this will protect the animals from chills.

Carriage horses with a full service of coachmen and stablemen can enjoy the clipping season; that is, if the shopping and calls are limited to minutes, not to hours; but our friend, the horse, who labors, must have his health and somfort considered before he is handed over to the clipper. Let theory take a hand with practice, then practical experience will teach us correctly about the bane of clipping indiscriminately.

Solid grooming daily, week in and week out, will keep the coats of the horses healthy and bright, so that many horsemen will find clipping unnecessary.

CAUSES OF TAINTED MILK.

The Swiss scientist, Dr. Gerber, gives the following causes of bad or tainted milk:

1.—Poor, decayed fodders, or irrational methods of feeding.

2.—Poor, dirty water used for drinking water or for the washing of utensils.

3.—Foul air in cow stable, or the cows lying in their own dung.

4.—Lack of cleanliness in milking; manure particles on udder.

5.—Keeping the milk too long in too warm, poorly ventilated and dirty places.

6.—Neglecting to cool the milk rapidly directly after milking.

7.—Lack of cleanliness in the care of the milk, from which causes the greater number of milk taints arise.

8.—Poor transportation facilities, etc.

9.—Sick cows, udder diseases, etc.

10.—Cows being in heat.

11.—Mixing fresh and old milk in the same can.

12.—Rusty tin pails nad tin cans.

FALL CARE OF COWS.

In the feeding of dairy cows two seasons are recognized by the average dairyman. These are the winter feeding season and the summer season. In the former case the animals are entirely dependent upon what grain and fodder are allotted to them, there being no opportunity for grazing afforded. The very opposite of this is true during the summer season, the animals being expected to hunt their own living. The transition from one season to another frequently causes a falling off in the milk supply. This is particularly true in the fall when the ainmals are left to shift for themselves after the nights become cold. The fact is lost sight of that a dairy animal is of rather delicate constitution, and on this account cannot withstand the hardships which the beef animal can bear.

It is an exceedingly good plan to allow cows to have shelter at night after the first of October. If they are put in the stable or in sheds and fed a small grain ration night and morning, together with a little fodder, they will liberally respond to such treatment at milking time and will more than pay for the food fed in this way and the labor involved in caring for them. While the days remain warm they are just as well out in the pasture, as there is no food better adapted for milk production than is good grass. Grass is also economical, and for this reason one should endeavor to extend the grazing season just as long as possible. If pastures are getting a little bare, it will generally pay to haul a little fodder to the field. This may be corn fodder, sorghum, kaffir corn, millet, or any crops of this character. It is never a good plan to turn cows into frosted grass after having kept them in the stable during the night, it being much better to keep them housed until the grass is approaching dryness.—Midland Farmer.

SHADE FOR HOGS.

Hogs require more shade in summer than any other kind of domestic animal. The thick coating of fat confines the natural heat of the body by its property of non-conduction and prevention of perspiration. An ox or a horse can stand, without injury, day after day, a degree of exposure to heat that would kill a hog within an hour. A dense shade with free access to wind from any quarter, should be provided; and if in addition fairly clean water for bathing purposes is available, the hogs will appreciate it and pay for it in avoirdupois weight. In winter the best results are likewise obtained by having a warm, dry place in which to shelter the hog when at rest.

WARMTH FOR HOGS.

A prize essay on the feed and care of breeding hogs in winter, published in the Indiana Farmer, says the greatest foes to the health of breeding hogs are cold and dampness. The hog, like the human being, needs a warm, dry comfortable bed when at rest. Hogs should not, however, be coddled too much but those kept for breeding purposes require a great amount of exercise.

NATIONAL LIVE STOCK ASSOCIATION.

The seventh annual convention of the National Live Stock Association will be held in Portland, Oregon, January 12th to 15th, next. The governors of each state and territory may appoint three delegates-at-large with an alternate for each delegate.

OVER 64 QUARTS PER DAY.

Editor Cultivator—In the Cultivator of December 4, page 445, I find an account of E. W. Leffingwell's cow, that gives over 16 gallons per day. I want to buy that cow. I think that story equal to Jonah swallowing the whale. —A. Fuarey, Colton.

The trouble about that story is that it is not true, but if it were Leffingwell's cow would be so valuable that only a man like Rockefeller could buy her—no average dairyman need apply.

NEW CATTLE CARS.

The 'Frisco line is experimenting with a new stock car. Doors are placed at each end of the car, and each car connected, when loading or unloading, with gangway. An entire trainload may thus be filled from any one chute from the cattle pen, as the cattle are driven through the pen to the car most removed. When full the doors are closed and the next one filled, and so on.

Remember when you buy dairy cows, that you do not want beef animals, for they are inclined to lay on flesh instead of giving value received for their feed and care in the bucket.

Keep your separator and milk house clean. What is worth doing at all, is worth doing right.

Cows For Sale

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GOOD ROADS AND DAIRYING.

Perhaps no class of farmers is so interested in good roads as that engaged in dairying. The stockraiser, for example, markets his produce but a few times each year. The grainraiser the same; but the dairyman uses the highways from two to six times a week.

So closely allied is the subject of good roads with dairy husbandry that I believe the two should be more connected in public interest. Why not discuss the subject of good roads at our state and national dairy convention? Why not use our influence in every way we can to assist in the good road movement?

A new office in the Department of Agriculture, Washington, D. C., has recently been established. The office is called the office of public road inquiries. Recently the department has sent out a paper giving a list of the bulletins published in connection with the good roads movement. Under this list we find many valuable works connected with road structure and allied subjects. These bulletins can be obtained at nominal figures. Prices range from 2 to 5 cents. This sum will buy nearly any of these bulletins, so that the cost is low and it is an easy matter to become posted on good roads literature.

Bulletin No. 9, published in 1894, entitled "State Aid to Road Building in New Jersey," gives us a pretty good idea of how the state may be interested in the good road movement. Farmers' bulletin, No. 136, entitled "Earth Roads," is another valuable publication and instructive. This bulletin deals with the subject of country roads, especially those made from dirt. The west is especially interested in dirt roads, as in many sections of our country it is nearly impossible to obtain stone or hard material for road construction.

Why not agitate the subject of good roads, and why not the dairymen take a leading part in this movement?

THE ADVANTAGES OF DAIRYING

Dairying has many advantages over many other branches of agriculture, writes a correspondent. In the first place the very important matter of keeping up the fertility of the land is conserved better by devoting it to this business than if it is yearly cultivated in the usual crops and the product hauled off and sold. Almost all the sources of fertility in the dairy farm are returned to the soil, and it will increase in value from year to year if rightly managed. But the dairy men must study the methods of the great packing houses and let nothing go to waste if they expect to make the business profitable. The milk and butter alone will in all probability net them a sufficient income to make a living and put a little in the bank each month, but their profits will be much greater if they will keep an eye on the by-products as the packer does. The calves are one of these products, and they can be very cheaply raised on skim milk, with the addition of some other suitable food. As the calves are not capable of consuming all the skim milk produced on the farm, the pigs should be on hand to assist in disposing of that article as well as the buttermilk, upon which they will thrive and grow fat, only needing a little finishing off on corn to make them good marketable animals that will greatly assist in making the farm a good investment. After the pigs will come the chickens, which are partial to both buttermilk and skim milk and will produce eggs in sufficient numbers to pay for their care and will need but little else as a regular feed. Then when the time comes the flock is sold and considerable addition is made to the income of the owner. These by-products will represent the cash profit on the investment, while the milk and butter will pay for the running expenses and for the labor involved. But the great profit is one which is not always visible and is one which is not regarded as seriously as it should be. We refer to the manure saved annually to the fields, which is constantly enhancing the value of the farm.

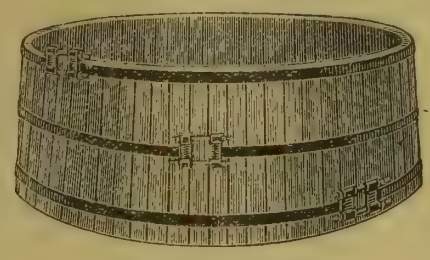
An old dairyman, quoted by Hoard's Dairyman, was once talking to a lot of creamery patrons and used this language: "A great deal of your milk comes to the creamery in an unfit condition. You know that I am not going to assume that you are ignorant of your duty. Like myself, you do not do half as well as you know. We both too often sacrifice our conscience to our convenience. We are not full-fledged, four-squared dairymen yet, making the business and all its demands, our pride, our honor, our chief concern. We keep cows, but how do we keep them? Not half as clean as we do our cornfields. Why? Because we do not have half as much pride in our cow work as we do in our corn work. When the creamery patron becomes just as keenly alive to the reputation of his creamery as he wants the butter maker to be; feels his importance in it and his responsibility to it, realizes that one pound of dirty milk will spoil 100 pounds of clean milk, then we will make butter that will beat the whole world." Commenting on the foregoing the editor of Hoard's Dairyman says: "Now that was the truth and nothing but the truth from the patron's standpoint. It was a faithful, honest, brave statement, and faithful, honest men always welcome that kind of talk. But this business of making fine butter is a very wide proposition. It does not all rest on the farmer who produces the milk. Of great importance is the study of the scientific side of it, the skilled training in the work; the sharpened perception of the taste, the smell, the eye, and all that goes to make what we call expert judgment."

The Texas Stock Journal says: "Mrs. H. D. King, the largest individual ranch owner in the world and one of the very few wealthy women of America, was in Fort Worth last week. Her estate is valued at $25,000,000, including over 1,000,000 acres of deeded land and between 75,000 and 100,000 head of cattle. This is the first trip Mrs. King has made to Fort Worth in about twenty years. She has valuable real estate in this city as well as in New York and St. Louis. She is a woman now over 70 years of age, very active for one of her years, and is modest and unassuming."

MONEY IN PIGS.

Six years ago a daughter of Doctor W. Seward Webb, in order to show her business ability and to obtain a little additional pocket money, took a little "flyer" in stock-breeding on Shelburne Farms, Doctor Webb's country seat on Lake Champlain. She invested twenty dollars in a brood sow, and with her father's permission made arrangements with her shepherd to care for the sow and the pigs. As there was an abundance of skim milk, this was given her without cost, but all the grain fed was charged for at market prices. From this single investment she cleared ninety dollars the first year, two hundred dollars the second and three hundred dollars the third. By this time the stock had so increased in numbers as to outgrow its quarters, and was proving so profitable that Doctor Webb thought it advisable to buy her out. So at the end of the fourth year he took over the stock at market prices and gave her a check for seven hundred dollars, which represented the year's profits. From this start the present piggery has been developed, which is the most profitable department of the place. The past year two hundred pigs were sold, averaging from two hundred and fifty to three hundred pounds in weight and bringing one-half cent per pound more than the ruling market prices, because of the superior conditions under which they are kept. The piggery is a model of its kind. The building is in keeping with the others on the place in exterior style, and the interior is finished with hard pine, cement floors and iron troughs and fixtures. —Country Life in America.

STOCK TANK



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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

LIST OF POULTRY AWARDS.

The Los Angeles poultry show, which closed on Saturday in a blaze of glory, was, without doubt, the greatest exhibition ever given in Southern California. There was more interest manifested among poultry keepers, among fanciers generally and by the public at large, than has heretofore been noticed. All of which goes to show the importance the poultry business is assuming in the minds of the people.

Following is the complete list of awards made by the judges:

White Leghorns—Pens: first and second, W. W. Howard, Los Angeles; Cocks: first, W. W. Howard; second and third, G. I. Lytle, Los Angeles. Cockerels: first, second and third, G. I. Lytle.

White Wyandottes—Pens: first, E. R. Holman, Anaheim. Hens: first, E. R. Holman; second and third, Ben Vlier, Pasadena. Cockerels: first, second and third, Ben Vlier. Pullets, first and third, E. R. Holman; second, Ben Vlier.

Buff Plymouth Rocks—Pens: first, Dr. T. B. Keys, Fresno. Hen: first and second, Dr. Keys; third, G. H. Heady, Los Angeles. Cockerels: first, Dr. Keys. Pullets: first and third, Moneta.

Dr. Keys; second, F. M. Thornton, Columbia Wyandottes — Cockerels and pullets: first, Mrs. H. A. Weller, Los Angeles.

Silver Penciled Wyandottes—All awards; C. H. Young, Los Angeles.

Partridge Wyandottes—All awards: C. Andrews, Los Angeles.

Partridge Plymouth Rocks—All awards: Mrs. A. Albutt, Los Angeles.

Barred Plymouth Rocks—Pens: first and second, S. M. Butler, San Bernardino; third, Fred Espe, Los Angeles. Cocks: first and second, S. M. Butler. Hens: first and second, S. M. Butler; third: A. A. Clapp, Alhambra.

Silver Wyandottes—Cocks: first, H. T. Hohenshell, Elsinore; second and third, Fred Wilson, Los Angeles. Hens: first and second, H. T. Hohenshell; third, Fred Wilson. Cockerels: first, Wilson; second and third, Hohenshell. Pullets: all awards, Hohenshell.

White Brahmas—All awards: John Russell, East Oakland.

All breeds Orpingtons except buffs—All awards: P. M. Burbridge, Los Angeles.

Golden Wyandottes — Cocks, all awards: Mrs. H. A. Wells, Los Angeles.

Indian Games—All awards: J. H. Hartwell, Long Beach.

Toulouse Geese—All awards: Brookside Farm, Los Angeles.

White Plymouth Rocks—Pens, first and second, T. M. Butler, San Bernardino; cocks, first, Rhoda E. Durfee, Santa Ana; third, S. M. Butler. Hens: first, S. M. Butler; cockerels, first and second, Rhoda Durfee; third S. M. Butler; pullets, first and third, S. M. Butler; second, R. E. Durfee; first and third, S. M. Butler; second, Fred Espe; pullets, first and third, S. M. Butler; second, A. A. Clapp.

Black Minorcas—Pens: first, Harry E. Rose, San Gabriel; hens, first, second and third, Harry E. Rose; cockerels, G. I. Lytle; pullets, H. E. Rose.

Buff Orpingtons—Pens, first, Royal Yards; second, Mrs. O. B. Smith, Long Beach; cocks, Arthur Letts, Los Angeles; hens, first, Mrs. O. H. Burbridge, Los Angeles; cockerels, first, Mrs. O. B. Smith, Long Beach; pullets, first, Royal Yards, Los Angeles; second, Mrs. Smith.

Buff Cochins—Cocks, all awards, MacIntyre.

Buff Cochin Bantams—All awards, H. H. Holland, Fresno.

Blue Andalusians—Pens: first, Mrs. T. R. Griffith, Los Angeles; second, Inglenook yards, Garvanza. Cocks, first, H. H. Holland, Fresno; hens, first and second, Mrs. Griffith; third, Inglenook yards. Cockerels, first and third, Mrs. Griffith; second, Inglenook yards. Pullets, first, Mrs. Griffith; second, Inglenook yards.

Brown Leghorns—Pens: first, E. W. Bass, Los Angeles; second, Joseph Vlasek, Los Angeles; third, Fred Lenz, Los Angeles. Cocks, first, W. E. Mercer, Ventura; second, Fred Lentz, Los Angeles. Hens, first and second, W. E. Mercer; third, E. W. Bass and wife. Pullets, first and second, W. E. Mercer.

White Leghorns—Pens: first and second, A. Howard, Los Angeles. Cocks, second and third, G. I. Lytle, Los Angeles. Hens, second, G. I. Lytle, Los Angeles. Cockerels, first, second and third, G. I. Lytle.

Black Langshans—Cocks, first, J. M. Wright, Pasadena. Hens, first and second, J. M. Wright. Cockerels, first and second, C. T. Renfew, South Pasadena; third, J. M. Wright. Pullets, first, second and third, C. T. Renfew.

ONE SIDE OF THE STORY.

"No! chickens don't pay," said an eminent New York lawyer to me yesterday. "Father found that out," continued he, "when we lived in Minneapolis. He bought a big incubator. I think it held about four hundred eggs. I know it was so large it had to be in his art gallery, forty feet square; well, with the first lot of eggs the lamp went out and they all froze. The next lot the lamp did not go out, but something went wrong with the coniptian that regulates the heat; no, the lamp did not go out, but all those eggs were baked. This was getting to be a serious matter, but father thought it might succeed the third time, so the incubator was again filled with eggs, and the whole family was detailed to keep the thing running right, and this time to his great delight the eggs hatched out; they were neither frozen nor baked.

Then we all had to herd those chickens; each of us had a certain number to herd, but I suppose the little beggars were cold, or needed an old hen to creep under, for they kept pushing under each other until they were a little pile in the corner over a foot high and the bottom ones were smothered to death.

"Father then bought a sort of tin thing with a lamp at one corner and rags hanging down, I think it was a tin water tank about two feet square. "A sort of artificial mother," I suggested. "That's it," was the reply; "the chickens scooted under those rags and got on all right."

"But Uncle Jim, didn't the measles catch them?" said a small boy. The weasels, not measles. Yes, weasels and skunks and even the watch dog ate chicken till they soon disappeared and father decided that chickens don't pay. He had invested a good many hundred dollars and lost it all."

Moral: Don't try to raise chickens unless you know how. The aforesaid old gentleman handled millions of dollars successfully, but could not raise chickens.—Mrs. A. Basley.

POUTRY POINTERS.

When chickens grow very fast, it sometimes causes leg weakness.

Under usual conditions a variety of food is better than any medicine that can be given.

The only safe way of disposing of dead fowls that have died of any contagious disease is to burn them.

Clover contains two elements that are in demand by the hens—nitrogen and lime. It is rich in the elements required for the whites of eggs.

When roup gets into a flock, it invariably leaves some ailment behind. The fowl that has been subject to it is seldom healthy again.

There is no cure for feather pulling except by more labor and time than an ordinary flock is worth. The best plan is to get rid of the guilty fowls as soon as possible.

A hen seldom begins to eat eggshells until she finds one broken or until she becomes accustomed to eating eggs thrown out into the yard. The safest plan is always to crumble them up fine before feeding.—Napa Journal.

100 S. C. White Leghorn Pullets, the pick from 300 beauties mated to two-year-old roosters that cannot be beat. Eggs $1.50 per 15; $5.00 per hundred. M. L. CURTIS, Los Soso Poultry Farm, San Luis Obispo, Cal.

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EARLY BROILERS.

At the Los Angeles poultry exhibition was shown a variety of fowls each of which had some characteristic that made it especially valuable. One of them was the Buff Cochin, a beautiful bird quickly grown and especially of value to the table. The owners claim for it quick growth and delicious flavor as a broiler. Discussing this question of earily broilers with a poultry raiser he strongly recommended the use of the incubator. He especially favors its use in winter, while many poultrymen and farmers raise chicks in the spring it is because at that season the hens are more inclined to become broody. The proper period for hatching early broilers is in the late fall and winter, which is also the most suitable season for incubators. The great obstacle to the production of early broilers is that the hens will not incubate until they are ready to do so of their own accord. By the use of the incubator chicks can be hatched at any time. It will thus be seen that the one has nothing to do with the other, all that is dependent upon the hen being the laying of the eggs, and in that respect she has no substitute. The laying of eggs is done at the least expense in those months following March, and ending only when molting begins, while hatching and raising chicks is done from the molting-season until March ends. The year is thus divided into two periods, and into two separate industries, both of which give better results than either alone. The incubator cannot lay eggs, but can hatch them, while the hen can lay eggs, but will not hatch them until she so prefers.

SHELTER CONTROLS EGGS.

The West Virginia Experiment station gives a timely and interesting report showing the difference in egg production where the same food and same care was given two groups of pullets. One group was warmly housed, while the other was sheltered in a cold house. There were five periods of time accorded the fowls of 30 days each. The record was as follows for eggs produced:

Warm house	725
Cold house	425
SECOND PERIOD.	
Warm House	1,083
Cold house	866
THIRD PERIOD.	
Warm house	1,150
Cold house	858
FOURTH PERIOD.	
Warm house	1,000
Cold house	1,033
FIFTH PERIOD.	
Warm house	1,281
Cold house	954

It will be seen that the hens in the warm house laid 1,103 more eggs than those in the cold house during the time allotted to this test, which should be conclusive evidence of the advantage of warmth in the production of winter eggs. It was a profitable investment as well as more humane to provide warmth for the biddies.

With windows properly prepared and a drop curtain of some kind to exclude cold on midwinter nights to cover them there will be a saving of food and a saving of sufferings with farm fowls.—Baltimore Sun.

NOT OVER DONE.

A writer in the Petamula Poultry Journal discusses the question whether "the poultry business is over done." We in San Francisco who are just now paying 60 cents a dozen for eggs and 35 cents a pound for Thanksgiving turkey—if we have the money—are decidedly of the opinion that it is not overdone in the matter of supply, although possibly it may be in the matter of charging. From the poultryman's standpoint the greatest need seems to be co-operative cold storage and co-operative marketing, so that those who bear the expense and risk of the production of poultry may enjoy the profits. The prime requisite for accomplishing these ends is the possession of collective energy and business ability among the poultrymen. We do not know whether they have it or not. They are trying to find out over in Petaluma.—S. F. Chronicle.

POULTRY NOTES.

Cleanliness about feeding places is essential.

To keep the fowls healthy is one of the first requisites.

Where confined, laying hens should have meat or milk.

Breed out the long boned fowls and breed in the short legs.

From this on through the winter feed whole corn at night.

Fowls must depend on the grit supplied to them to grind their food.

Learn to dry pick chickens without tearing the skin, instead of scalding them to remove the feathers.

Late broods of chickens need a warm place, as they are easily stunted if exposed to cold.

In building poultry houses, remember that the most important requisites are light, ventilation and warmth.

Never breed pure immature fowls, no matter how handsome or perfect in looks they may be.

If the hens cease laying change their previous rations, giving them either more meat scraps or milk.

The pleasures of poultry keeping, the profits of the business, and the health of the stock, depend more upon the cleanliness of the premises than any other one thing. The practice of having the roosting-poles over the nests in the alley, having dropping-boards to collect the offal, and infrequent cleanings, make the owner ashamed to take guests to the poultry-houses, and the odor drives them away if they do go. Looking over ill-smelling roosts disgusts the visitor, and he sees no beauty in the flock.

BUSINESS NOTES.

Mr. Theadore Payne who has succeeded to the ownership of the nurseries formerly belonging to Hugh Evans has fitted himself for his calling as few others have. After years of experience in practical nursery work he traveled in the east and in Europe where he widened his knowledge of other methods of work. Not only that but he has a fund of information as the best and most reliable growers of flower seeds by which he is enabled to select the choicest of the earth. This will enable Mr. Payne to increase the popularity of these nurseries which have made such a specialty of ornamental trees, plants and flowers. Shade trees are the largest of any feature of the nursery. Live oaks—and there is no prettier shade tree—Stermlias and acacies are all in large quantities in the nursery.

The Krucheberg Press has just issued fine specimens of work in the form of price lists for the Armstrong Nurseries of Ontario and Henry Albers of Los Angeles. Krucheberg "saveys" printing from start to finish, especially in horticultural or nursery lines.

The Cultivator erred last week in the notices of the Los Angeles Poultry show wherein we referred to the display of Los Angeles Incubator and poultry supplies as being that of Geo. R. Albers. Now when it comes to a big lusty Black Minorca crow, Geo. Albers is in it, but the biggest poultry house in these United States which also makes the famous Los Angeles Incubator is owned and managed by Henry Albers who has advertised in this, the best of farm papers lo, these many years, until his name is a houshold word in the homes of this state. This was well known to the writer of this little item last week, but by a mere slip the mistake was made.

So, those who noticed the absence of the name of Henry Albers from the list of exhibitors last week, please bear in mind he was there with a fine exhibit.

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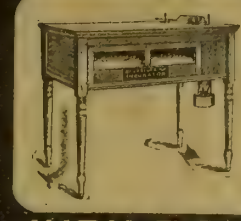

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

TREE FOR WIDE STREETS.

While at San Diego recently the writer noticed about one half of a city block planted with the Moreton Bay Chestnut (Ficus macrophylla) and they seemed to thrive in poor soil with a meagre supply of water.

We have throughout the state, a great number of these trees in ornamental grounds, but untried in many localities for street planting. The tree, when well supplied with water, will, in twenty-five years, grow to such a size as to completely arch a street of sixty feet in width. The trees at San Diego seem to have been planted eight or ten years and were not more than fifteen feet high, and the same diameter of top and, while looking well, evidently had been retarded in growth by a shortage of water.

* * *

TREES FOR ALKALI SOILS.

Editor Cultivator: Can you give me names of street trees that will stand the climate of Fresno county, where there is considerable alkali in the soil? —J. C. W.

The following will thrive on any soil in your section: Albizzia lophanta; Eucalyptus amygdalina–rostrata–viminalis; Koelrenteria paniculata; Platanus orinetalis. All may be found on sale at the nurseries in Fresno and vicinity.

* * *

RUBBER TREES.

A. C. R., San Diego, wishes to know if rubber trees can be grown in California.

The question is a broad one. We grow Ficus elastica, the Indian rubber tree, in many parts of Southern California. It may be possible the Mexican rubber tree, Castilla elastica, will also grow here but we have never seen the experiment tried, and as it requires an abundance of water, the chances are against its thriving in this climate.

* * *

THE PERGOLA.

A friend of the writer's, who has a keen appreciation of things beautiful in the garden, has "discovered" that the pergola exists in Los Angeles, both in its simplest form and "treated architecturally," and people are beginning to ask, "What is a pergola." Nothing harmful. In simple English it is simply a covered way or path. All that the writer has seen in the vicinity of Los Angeles are obtrusive and therefore obnoxious. A pergola should never be made except there is apparent use for it, and then, if near the dwelling, it should smack somewhat of the same style of architecture. In landscape gardening proper there is no place for it, but the more formal styles, especially the Italian, there is some excuse for it, often a use.

The simplest and best uses for pergolas are as dividing lines between the vegetable and the flower garden, or between two plats, planted in different styles—to hide unsightly objects; or they may be used effectively around tennis courts by leaving the side next the grounds unplanted. The best material to use, if removed from a plain and open view of the house, is the bodies of small trees cut so as to leave a fork at the proper height in which to lay the main cross beams. When close to dwellings of pretentious style the uprights may be either of turned or square columns of wood or piers made of brick, stone, or concrete, as the material and style of the residence may determine. If not kept properly covered with vines, all styles become unsightly.

The minimum weight of cured fruit for a carload is 30,000 pounds, and of fresh fruit 24,000 pounds. Pears are packed in 50-pound boxes, requiring 480 boxes to make a carload. It takes 1117 boxes of peaches for a car, as this fruit is packed in 21½-pound boxes. Plums and prunes are placed in 26-pound crates, 924 of them making a minimum carload. Apricots and grapes are figured at 25 pounds to the crate. Of oranges it takes 862 boxes to make a car and 312 boxes of lemons

HORTICULTURAL COMMISSIONERS IN STATE MEETING.

There was a meeting of State Associations of County Boards of Horticultural Commissioners with attendants from various counties of the state in the city of Fresno last week, which was a better example of what might be done than what was done. The commissioners have a meeting once each year, and at the same time and place as the State Fruit Growers' Convention. The meetings are not of an official nature, but more particularly a conference as to the various pests affecting horticultural or agricultural interests, how to keep them out of the various sections, laws on quarantine or insect control now insufficient, or needed laws which should be enacted and many other features are discussed.

Usually there have been several sessions of these meetings, but this year there was only one, as the time of the convention filled almost every hour of each day. Much was discussed but little threshed out and recommended.

There were present Quarantine Officer Alexander Craw, of San Francisco, Chairman A. D. Bishop, of Orange Co.; Secretary Harry P. Stabler, of Sutter Co.; Edw. M. Ehrhorn, Santa Clara Co.; S. R. Pease, San Bernardino Co.; O. E. Bremner, Sonoma Co.; C. H. Rogers, A. N. Judd and S. M. Fidel, Santa Cruz Co.; W. D. Weaver, Fresno; Mr. Byron, Kings Co.; Mr. Coats, Tehama Co.; Harvy C. Stiles, of Butte Co.; Wm. Weaver, Shasta Co.; Professors Woodworth and Clarke of the State University, Prof. A.J.Cook of Pomona College, Prof. Newton P. Pierce, Government Pathologist, of Santa Ana; Mr. Volck of the State University, and Mr. Messenger, of the Cultivator.

Reports were made by the various commissioners of conditions in their counties. On the subject of insect pests there was a most hopeful feeling. Between the natural enemies and the improved methods of spraying, reasonably satisfactory control is secured, though by no means extermination. Much enthusiasm was manifested regarding the Scutellista cyanea which promises to vastly reduce the black scale. But in the matter of fungoid diseases there is apparently a feeling of discouragement. The pear blight, walnut blight, California vine disease (Anaheim is trying to shunt off "Anaheim disease), and some others, still offer serious problems.

There were diverse opinions as to legislation. Some commissioners thought present laws sufficient; others that further enactments are necessary. One law, or a change in the present law, which called for discussion is that in regard to appointment of three commissioners. Prof. Cook, Mr. Pease and Mr. Ehrhorn favored its change so that there should be only one commissioner. Mr. Stabler and others decidedly opposed such change. The arguments advanced by those favoring the law are in short that one executive officer is more efficient than three. The appointment of three as now required by law, each drawing $4 per day salary, makes an unnecessary burden on tax payers which they will not tolerate, hence in some counties are never appointed. No one commissioner having full power, the best results often fail of accomplishment when three are responsible for action. One man of ability, appointed under civil service rules, with a good corps of inspectors, can accomplish more than three "politicians" who are appointed in payment for services rendered any political party.

Those in favor of the present system claim that three intelligent fruit men from different districts of the county may bring in reports of conditions in the various districts and by acting together secure much better results than any one man may. If county supervisors are dishonorable enough to pay political debts with such important offices they will secure means of evading another law. The securing of a new law with desirable features which may not be amended to features which may not be amended to death in the enactment is much easier

Professors Woodworth and Clarke both reported regarding experiments and observations in the Pajaro valley codling moth investigations.

As the next meeting will preceed the meeting of the state legislature, it is probable that more spirited arguments will be heard and possibly more definite results accomplished.

The United States quartermaster's department has called for proposals on what is said to be the largest orders for forage ever placed on the Pacific coast. The call is for 4320 tons of oats and 5435 tons of hay, the latter amounting to nearly 75,000 bales, all to go to the Philippines.

The monthly report of Los Angeles County Horticultural Commission for October shows that there were treated during the month 130,611 citrus trees for black scale, of which 116,635 were sprayed with distillate and 13,635 were fumigated. For red scale 1126 trees were sprayed with distillate and 725 were fumigated with gas. The salaries of commissioners and inspectors for the month amounted to $857.88.

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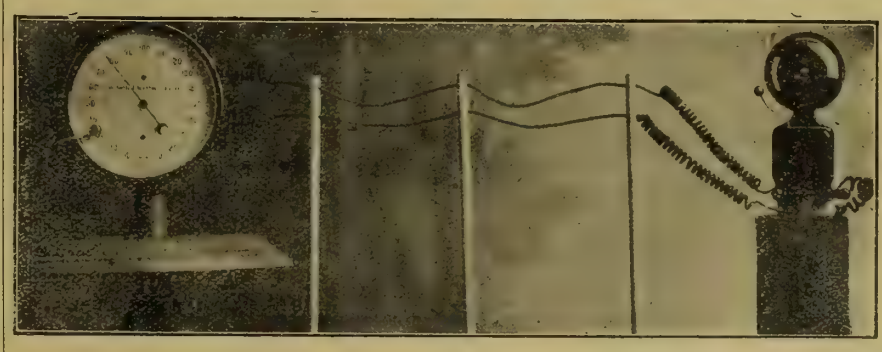

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California Vine Disease....

BY NEWTON B. PIERCE, SANTA ANA

Since the first appearance of the California Vine Disease in the vineyards of Anaheim, California, in 1884-85, it has never entirely ceased its ravages in the affected districts. Its spread through southern California was very rapid, so that within five years from its first appearance it had ruined at least twenty-five thousand acres of vines in what are now the counties of Orange, Los Angeles, San Bernardino, Riverside and San Diego. This involved a direct and indirect loss of not less than thirty million dollars.

About five years later, in 1889-90, the same disease broke out in the upper end of the Sacramento Valley, and old Mission vineyards both east and west of the Sacramento River, in Tehama county, died in a single season. Since that date extensive vineyards have been killed in Tehama, Butte, Colusa, Yuba and Sutter counties, and many others have been practically ruined. Probably five thousand acres of vines have been destroyed in that section of the state since the date named.

A third extensive viticultural center has more recently become affected by the same disease. About 1898-99 the great vineyards of the Santa Clara Valley began to fail in a manner similar to those of Southern California and those of Tehama County. The death of vines in the Santa Clara Valley has been rapid over large areas, while the east side of the valley and among the Santa Cruz Mountains at the west the destruction has been slower and is still progressing. The affected district includes portions of the counties of San Mateo, Santa Clara, Santa Cruz and Alameda. It is probable that the loss will amount to ten thousand acres of vines in this district, as nearly or quite that acreage is already affected.

We have then, in general summary, a destruction of forty thousand acres of vines by this disease in the course of the past twenty years—1884 to 1904—and a direct and indirect financial loss to the state and county from this cause of probably not less than forty million dollars.

In both southern California and the upper end of the Sacramento Valley the California Vine Disease has destroyed the vineyards wholly independent of the action of Phylloxera, which pest, so far as known at present, does not exist in either district. In the Santa Clara Valley, however, Phylloxera has been present for some years so that both diseases must be taken into account in considering the effects in that locality.

A broad study of the appearance and developement of the California Vine Disease in the three great viticultural districts now affected, reveals certain prominent facts that should be noted by those interested in vine growing.

(1) The disease is more apt to develop in a region where the vines have been weakened by some cause—such as the injury of the root system by drought or excessive moisture, or by sudden changes from one to the other.

(2) The disease when once established in an epidemic form remains in the affected region in an active state, destroying new vineyards set from healthy cuttings and showing all of the characteristics of generally distributed parasitic malady.

(3) There are striking differences in the susceptibility to this disease of different varieties and species of grapes, although in the heat of a first epidemic many varieties will die more rapidly or more generally than after the height of the epidemic has passed.

We gather from these general observations certain guiding facts. (a) Vineyards of unaffected districts should be carefully guarded against all weakening influences, as a radical change of moisture conditions, for the prevention of disease is always better than cure. (b) When the disease obtains a foothold its presence should not be ignored but its effects should be carefully studied with a view of determining the comparative resistance of the varieties and species of grapes already growing in the district. (c) In replanting, only the hardier types should be selected, and in case these vines are unsatisfactory in fruiting qualities the hardiest known root should be planted and top-grafted with the most resistant variety producing the type of fruit required.

At present the vine most resistant to the California Vine Disease and which is believed by most growers to be of Vitis vinifera origin, though this is still an open question, is the Lenoir. Upon its own roots this vine is almost completely resistant, and this is especially true of vines set after the heat of the first epidemic has passed. The raisin grape showing the greatest hardiness in the Malaga. One of the hardiest table grapes is the Tokay. Some of the more resistant wine grapes are the Feher Zagos, Black Malvoisie, Grenache and Herbemont.

The Lenoir vine has shown such great resistance to the disease that experiments were inaugurated by the United States Department of Agriculture to ascertain its value as a root upon which to graft the more susceptible varieties. Nearly four hundred acres of Lenoir vines have been planted and grafted to other varieties during the past seven or eight years, the work being done by leading viticulturists. The evidence to date is that the Lenoir root greatly aids a more susceptible top variety in resisting the disease, and in case the top graft is of a somewhat hardy variety the combined resistance has thus far proven satisfactory from the commercial standpoint. This work is still in progress, but it i believed that the results already obtained warrant the presentation of these facts to the growers.

A concluding word relative to the nature of resistance may not be inappropriate. Vines which are resistant to Phylloxera are not of necessity those which are free from that insect, but they are vines sufficiently hardy to withstand its attacks and still permit of successful viticulture. This is equally true respecting resistance of root and top in the presence of the California Vine Disease. The disease affects even the hardiest varieties, though they show various degrees of resistance to its action. Hence, as already stated, the most resistant top should be placed upon the hardiest known root in grafting against the malady.

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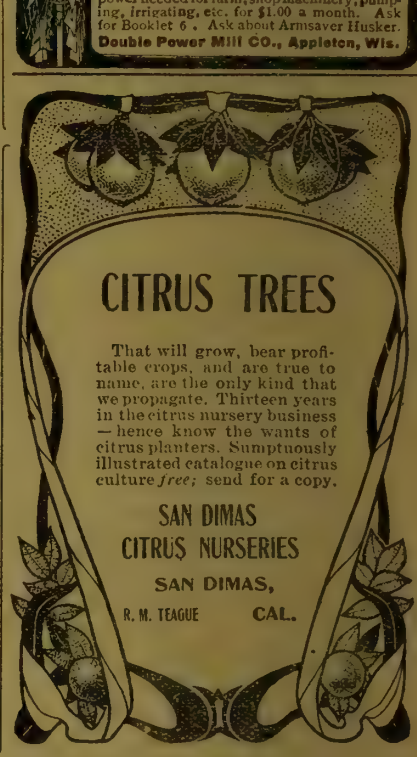

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TODAY.

A slab of chal·edony lay,
Upon John Ruskin's writing-desk
And on it, cut in careful script,
The word "Today."

Honored of all, a wondrous man,
And held a prophet in his way,
He let "Tomorrow" bide its time,
And used "Today."

Upon the tablet of the will
How good to write, the selfsame way,
Putting tomorrow's uses by,
The word "Today!"
—Harriet Prescott Spofford in St. Nicholas.

BACK TO GRAN'PA'S.

I'm goin' back down to gran'pa's.
I won't come back no more
To hear remarks about my feet
A muddyin' up the floor.
There's too much said about my clothes,
The scoldin's never done,
I'm goin' back down to gran'pa's,
Where a boy can have some fun.

I dug up half his garden
A-gittin' worms for bait;
He said he used to like it
When I laid abed so late;
He said that pie was good for boys
An' candy made 'em grow,
Ef I can't go back to gran'pa's,
I'll turn pirate fust you know.

He didn't make me comb my hair
But once or twice a week;
He wasn't' watchin' out fer words
I hadn't orter speak;
He told me stories 'bout the war,
An' Injuns shot out West.
Oh, I'm goin' back down to gran'pa's,
For he knows what boys like best.
—Unidentified.

A KISS OR A BLOW?

Did you ever read "Put Yourself in His Place?" It is one of the strongest and most impressive books ever written by Charles Reade, but the title alone contains a wealth of thought, especially for parents and guardians of children.

How seldom we stop to think of the feelings of a child and how a sharp "no" or a quick blow hurts the delicate, sensitive nature of a child.

The "Oh, mamma, mamma," of a child struck in anger is most pitiful to hear, for it reveals a shock to the mind and the heart that never can be effaced until the child heart becomes calloused and it does not take many blows to do this.

One half of the diseases of humanity are brought about through inhuman parents; parents who would cry out in indignation if an animal were ill treated.

Thousands suffer from injury to the delicate mechanism of the ear which in time renders them deaf or susceptible to catarrhal troubles, because of frequent sharp blows upon the ear as punishment for some trivial thing. If you doubt it, let a man box your ears and watch the effect, and then put yourself in the place of a child with the cartilage and nerves extremely tender with youth and think what their emotions must be.

I know a young man, the son of Christian parents, his late father a shining light in the church, who has since two years old suffered from hip disease, one limb withered and shortened by the punishment given by his father. The favorite punishment of his father for his children was a cat-o'-nine-tails. Do you wonder that this crippled boy with a beautiful face is a gambler, rogue and thief, although too capable in the trick of deceiving to be caught?

If you want to write lessons of deceit, falsehood and crime upon the hearts of your children, the very best way is to cut them in with the lash of a whip.

Your little boy or girl wants to go out and play; you are busy and a bit cross, the weather is really not fit for them to go, and you sharply answer, "no;" you give no reason; you take no notice of their restlessness and disappointment and they get into mischief; you are angry and reprimand them with a slap or a cuff on the ear; they see and feel the irritation in your mind and perhaps become still more restless until wrought up to a high pitch of anger you chastise them severely. Have you been made happier or they better? You would save time and temper had you have given your reason for the "no," kissed the little ones and set for them some pleasant task that would have made them happy and soothed your own unrest and irritability.

The child is trying to grow, to adjust its delicate nerves and tissues to fulfill its mission; it is learning to reason by its questioning; its pure soul is still untainted by the roughness and sin of the world until your heavy hand imprints the first lesson of the power of the strong over the weak, until you outrage and humiliate it and lead it to question even the unselfishness of parental love.

There are times when children must be punished for certain misdemeanors; it becomes really a necessity, but nine times out of ten someone else has been the one to instill disobedience into the child's mind, and he must be punished for the sins of another rather than self, but when this does become an absolute necessity do not punish in anger, and let your punishment be more in the form of a denial of some coveted pleasure. They will see the justice of this when they have had time to think, and the blood and brain have not been heated by blows.

Some say, "there are times when a child just has to be whipped," and who cling to the old theory, "spare the rod and spoil the child," but more children have had evil whipped into them than ever had it whipped out.

Go into the prisons, and out of the thousands of criminals you will probably not find fifty who can truthfully say they were never whipped severely by their parents or guardians while they were small.

Go into the reform schools, and what are some of them doing today to reform the poor creatures intrusted to their care? They put handcuffs upon young girls and boys, and tying them fast to make them helpless, whip them. Is this teaching the love, purity and gentler living?

If you do punish, be sure that punishment is not given upon circumstantial evidence. I know a woman who is past the meridian of life, who when a child idolized her father; but seared into her heart and brain over all the years are the lashes of a horsewhip given upon the bare skin, laid there by that father, and no love of after years ever obliterated those lashes, ever lessened the bitterness of them, made doubly humiliating because they were unjustly given for an offense never committed.

The pleasures of a child, its pains and disappointments, are as great to them, in proportion, as yours are to you. If only you would stop to think of this. You rebel when you long for something that fate denies you, or when something intervenes that you cannot take the coveted pleasure trip, and sometimes weep over it and grieve for days. The child whom you must deny similar things feels them in perhaps greater measure, because they have not the developed reasoning facilities that you possess.

One more plea for the children, and that is, politeness. There is no reason why you should not be as polite to your child as to your friend. You would thank the friend for the most simple favor granted; do you thank the child when it runs your countless errands? do you show a courteous interest in its little affairs of the day, or do you thrust it aside with a rude, "Oh, I'm busy; do not bother me so!"

Do you say "please, my son; or, my daughter, will you do such or such a thing for me?" or do you say, "go and do this or that for me at once."

Is there a smile and cheerful good morning for your children, or simple indifference or criticism should they be five minutes late?

Do you sarcastically criticise their dress, their hair, the amount they eat, or if anything is amiss do you wait until they are alone and gently call their attention to it? Every sarcastic word spoken in a family whether by child, parent, brother or sister is an entering wedge to quarrels and estrangement farther on. If thoughtlessly indulged in suppress it at once.

A family owes more of courtesy to its members than to any stranger, because they are of one blood and the tie should be unbreakable and the sweetest of all on earth.

Our children, the treasures most dear to us, should not be made to eat the corner piece of pie or the neck of the chicken, or sit in the most uncomfortable chair, because they are children. Of course there are times when it is their turn to sacrifice, but such things always demanded of them cultivates selfishness instead of respect and courtesy.

If any of our readers take exception to these ideas, we should be pleased to receive their criticism, if first they will put themselves in the place of the one whom they condemn and reason what their own feelings would be. We want honest opinions and convictions, and if we have erred in our conclusions we are ready to learn why and where.—Edith Hall, in Small Farmer.

BREADMAKING.

The making of good bread is a science and a fine art, and the way to make a perfect article is like the straight and narrow way to heaven in that here be few that find it, writes Mrs. F. L. Rose in Farmers' Sentinel.

There is no one thing upon which the health and comfort of the family depends so much as upon the quality of the bread. Dark, sour, heavy bread casts a gloom over the entire meal, and all the luxuries that can be piled upon the table can not compensate for it. It causes indigestion and makes those who eat it irritable, cranky, and sour. White, light, flaky, crisp bread will make any meal appetizing and will cover any amount of other culinary failures. Indeed, it is safe to pronounce any one a good cook who invariably has good bread, because bread making requires more good judgment than any other article of cookery.

It may seem like a simple process, but it is not what it seems, because it is a result which is contingent upon many causes—the class of flour, the kind and condition of the yeast, the various changes of temperature, the kneading and the baking are all important factors.

This is why no exact rule can ever be formulated for bread making. What appertains in one climate or season of the year may not be effective in another. Good rules and general directions for making it are helpful, but they can never be exact.

It is an acquired art and knowledge comes only by experience. There are so many details that require accurate observation and critical watching. The good cook knows there must be a certain amount of fermentation, but it must never pass a certain degree, else acetous or sour fermentation results, which is fatal to good bread.

To watch all these things, to keep it just warm enough and not too warm, to knead in just enough flour, to place in the oven in just the nick of time, and to bake just right, requires training and skill. Bread will not make itself, nor can one trust to luck, for good bread is by no means a product of carelessness. It needs continual watching from the time the yeast is started until the bread is packed away in the bread box. The temperature and the condition of the atmosphere must always be taken into consideration. There was an old Hoosier woman who had the reputation of being a good bread maker. She was watched, and it was discovered that after she had kneaded her bread and put it in a bread bowl, she put the bowl in her bed and covered it with her featherbed. Now this may not be considered just the nice thing to do, but the idea that the bread must be kept warm and free from draughts of air is the correct one.

Another woman who was attending a series of meetings molded her bread in the forenoon and let it rise light by the kitchen fire. Then she set it out in the shanty while he went to the afternoon session. When she returned to her home it had frozen some, but she warmed it and made it into loaves and then left it in a cold place while she went to the evening meeting. After her return from the session she warmed it again and baked it, getting it out of the oven about midnight; but

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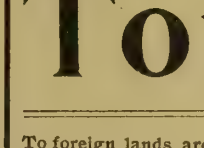

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it is unnecessary to say that the product of her ingenuity was not all that could be desired. Good bread will not bear neglect and any one who makes it must be devoted to the business.

There are many kinds of bread, biscuit, and rolls, all desirable compounds and all within the grasp of one who will thoroughly master the underlying principle of breadmaking and take into consideration all the moods and tenses to which this fermented article is subject.

Any girl who expects to take upon herself the housework in a little home of her own will do well to make bread at mother's and under her watchful eye for a long time if she wishes to acquire skill and avoid a long chapter of bitter experiences.

There is no surer way of learning the business than by actual experiment with an old cook. A good cook book on bread, in which the details of bread making are minutely given, is of value, but there is only one way to secure this pearl of great price, and that is by devoting one's self to it and mastering it.

It is an achievement of which to be proud, and the great sisterhood of housekeepers are anxious to learn the secret. Any one who could produce an infallible rule for the making of bread would be hailed as the benefactor of the age and if money value were placed upon the recipe the inventor would soon have an independent fortune.

As it now stands, a perfect article of this household necessity requires skill, fine judgment, devotion to the cause, and all-round common sense, and these are unpurchasable commodities.

RECIPES

Eat Little, but Have That Little Good

Potato Salad. — Twelve potatoes boiled in their jackets, peeled and cut into small dice; the white of three hard-boiled eggs; two bunches of young onions, chopped very fine, salt and pepper to taste. If young onions are not available, winter ones may be used in same proportion. Make a dressing of two well-beaten eggs, a scant half-cup of vinegar, two tablespoonfuls of sugar and butter the size of a walnut, boiling all together until thick. When cold, thin with cream and stir well into the potatoes. Line a salad dish with lettuce leaves, pour into it the salad and garnish with the yolks of three hard-boiled eggs cut into slices and a few leaves of parsley.

* * *

Ham and Eggs.—If you want to cook ham and eggs the very best way, cut the ham nearly half an inch thick, boil it in plenty of water till barely cooked through, pour off the water and put the pan in a place just hot enough to brown the fat part of the ham slightly, but not hot enough to make smoke or to brown the lean meat much. When this is finished, remove the frying pan from the fire, take up the ham, pour off the fat into a cup, and wipe the pan until it shines like a mirror, without a speck on it. Then put in a spoonful of fat, break in the eggs and set the pan in a place not much hotter than boiling water; cover it and let the eggs cook as slowly as possible for four or five minutes, taking them up as soon as they can be lifted out. Put them around the ham but do not pour any of the fat on the dish. Serve with mashed potatoes.

* * *

Creamed Spinach. — Wash the spinach thoroughly, and put in a kettle with no water except the moisture that clings to the leaves. Cover and cook until very tender. Drain and chop very, very fine, then whip light with a tablespoonful of butter and three tablespoonfuls of cream. Beat until you have a soft green mass, return to the saucepan, season to taste, stir steadily until very hot and serve on a hot platter garnished with triangles of thin, dry toast.

* * *

Hot Chocolate Sauce, with Arrowroot, for Ice Cream—Put into a saucepan one cupful of water, one-half cupful of sugar, one-half inch piece of stick cinnamon and one ounce or square of chocolate melted over hot water and mixed with one-half cupful of milk. When boiling, thicken with one tablespoonful of arrowroot wet in one-quarter of a cupful of water. Stir as it thickens and cook about five minutes. Remove the cinnamon, add one teaspoonful or vanilla, a little salt and serve it hot. Pour a small portion over each slice of ice cream.

ONLY A LITTLE WAY OFF.

"O mama! this seems 'like Christmas," called my little daughter from the window, where she stood watching with delighted eyes and face all aglow the first light snow shower of the season. And while Christmas is several days away, preparations for its proper observance by giving "good gifts" are at high tide. Actuated by the true spirit of giving, giving because we love to give, and putting into our work only loving thoughts, "Christmas work" is the most enjoyable our hands find to do. But if we plan to give from a sense of duty or because we know others will send gifts to us for which we feel we must send in return, we have no true enjoyment in it. I have never yet given anything from such a spirit, and hope I never shall. I am not often able to "make pretty things" of my own handiwork for Christmas giving, but every gift I send goes only as a loving remembrance—I could not enjoy giving otherwise. I am happy in the giving, and I am sure those to whom my small gifts go will be made happy by receiving them, for we all love to be remembered at the blessed Christmas time—the time of God's best gift to men.—Mother Bunch.

WHEN VICTORIA WAS A BABY.

The playthings of the late Queen Victoria, while in their splendor and intrinsic value will not compare with the almost priceless Jubilee presents that will be shown at the World's' Fari, will appeal to the sentiment of all who view them.

The British pavilion at the World's Fair will appeal to the sentiment of Kensington Palace, the birthplace of Queen Victoria. When she was a child she passed many hours in the quaint old building that was designed more than 200 years ago for Queen Anne, another of Britain's famed rulers. It was here that Victoria played with dolls and other toys that delighted the children of all classes.

When Mr. C. B. Wood, the superintendent of construction for the British building, was making his plans he visited the Orangery and faithfully copied all of the peculiarities. It was on these visits that he saw the toys with which the child who was destined to become Britain's best beloved ruler beguiled her time. Some of the dolls bore the marks of the love that the little princess had for her then favorite subjects. The paint is rubbed from the face of one. The arm of another is gone, and the leg of still another is missing. All of these toys are carefully preserved, and they remain just as they were when Victoria as the child cast them aside.

CLIMATE AS A HEALTH RESTORER.

In the current number of the California Medical Journal, Dr. J. A. Munk, of Los Angeles, discusses the effect of climate conditions on health. From a scientific view altitude is the thermometer which gauges the nervous condition of the body, and special attention should be given it when making a change with a view of benefitting health.

"Persons of nervous organizations," says the writer, "fare best at a low altitude, while phlegmatic temperment thrives on elevation." A patient who has organic disease should never seek a high altitude. Change of location is also recomended as beneficial to invalids. The climate of California, which is varied in its conditions, furnishes climatic altitudes to correspond with the needs of most people afflicted with nervous troubles.

The agitation for the promotion of silk culture is by no means confined to California. On the contrary, the work of our enthusiasts is a mere drop in the bucket—not sufficient, in fact, to attract attention outside of this State. The real strength of the movement lies in the Southern States, especially in Georgia, where the motive is to supply profitable work on farms for the negro women and children.

SCRUBBING FLOORS AND BATHING.

Scrubs the floors every day! Well, I just can't, for there's so much else to do, what with the baking, washing, ironing, mending, sewing and getting meals three times a day, I cannot find time for so much scrubbing as that. I try to clean the floors thoroughly twice a week, but we can live comfortbaly if it isn't done but once a week. I heard a young girl say, who is very particular about personal cleanliness and takes a bath every morning, that some people were so neat they cleaned their floors more often than they did their bodies, when it is so much more necessary, if we would be really cleanly and healthy, to bathe more often than we scrub. And that is what we do at our house. As I said before, my floor isn't always cleaned twice a week, but I see that every member of the family bathes at least that often, with a foot bath every night. And we are all hearty and healthy and happy. —K. Lean.

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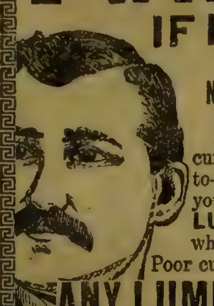

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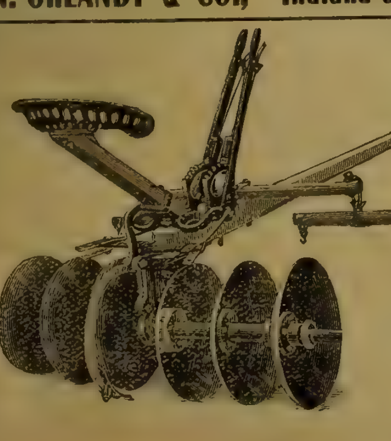

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Los Angeles Markets.

Los Angeles, December 16, 1903.

Rain in the north is having a tenency to weaken somewhat the tone of the butter market, although no decline is noted so far. The provision market is a little easier this week.

Butter.

B. of T. Creamery, 2lb roll		65
So. California, dairy do	.60	62½
Cooking	.45	30
Cold Storage	.50	55

Cheese.

California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	16	17
Swiss	.13	
Imported		.28

Eggs.

Fresh Ranch	.32	33
Fresh Eastern	.30	33
Store, case count	.30	.33

Potatoes.

River, per cwt		-1.25
Salinas, do	1.70	1.60
Local, do	1.00	1.25
Sweet Potatoes	1.75	2.00

Beans and Dried Peas.

Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00

NUTS.

Almonds, paper shell		14
Almonds, soft shell	.10	12
Walnuts, soft shell	.14	14½
Walnuts, hard shells	.13½	14
Peanuts, eastern	6	7
Peanuts, California	5	6

Vegetables; Mixed.

Onions, yellow, per cwt		1.60
Beets, per 100 lbs		.90
Cabbage, per 100 lbs		1.00
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chiles, string		.75
Cauliflower	.40	.50
Celery, per doz.	40	.50
Green Peas	3	.04
String Beans		.03
Lettuce, per sack	.25	
Tomatoes, 30 lb box	.50	.75

Fruits; Fresh.

Strawberries, box, fancy	.08	.15
Pears, Winter Nellis		1.75
Limes, per 100	.90	1.25
Navel Oranges, per box	1.00	2.50
Northern Apples, 40 lbs	75	1.50
Four tier Belleflower		1.50
Four half-tier Belleflower		1.00
Guavas	.04	.05

Fruits; Dried.

Apricots	.05	.08
Pears	.07	.08

Poultry.

Spring Chickens, per lb	.17	.20
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb.	.20	.22
Turkeys, cold storage	.22	.23

Live Stock.

Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Hay and Grain.

Wheat Hay		13.50
Barley Hay		14.00
Alfalfa		13.50
Corn	1.18	1.25
Barley		1.07½
Wheat	1.35	1.40
Oats	1.15	1.25

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley		1.20
Bran		1.20
Feed Corn Meal		1.40
Middlings		1.45
Cracked Corn		1.45
Oil Cake Meal	1.65	1.75
Chicken Wheat	1.50	1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, Dec. 9, 1903.

San Francisco, Dec. 16, 1903.

Under the influence of liberal supplies and the cautious operations of buyers, the general market for Butter continued on an easy basis most of the week. Holdings of the medium and lower grades of Butter have been heavy, and sellers unable to force sales, although willing to accept marked concessions.

BUTTER—Per lb:

Eastern Creamery	23 @25
Store	18 @20
California, storage	24 @27
Creamery, good to fancy	25 @27
Dairy, extras,	23 @24
Dairy, choice	21 @22
Store	18 @20

Eggs and Poultry.

Supplies of Eggs have been heavier and the market displayed an easier under tone. For fine selected Ranch the maximum quotation is still demanded in small ways.

EGGS—Per doz:

Ranch, selected, large	52
Ranch, good to choice	45 @50
Store	Nominal
California storage	28 @32½
Eastern	25 @30

The poultry market has somewhat recouped from the over stocked condition of last week. Dealers are beginning to stock up for the coming holiday trade, and fearing that the raging storms in the Middle West will curtail receipts of Eastern, operated with considerable freedom and readily paid full figures for top-quality Fowls.

POULTRY—Old Roosters, per doz., $4.50@5.50; young Roosters, $5@6; Fryers, $4@4.50; Broilers, large, $4@4.50; small, $3@3.50; Hens, small, $4.50@5.50; large, $6@7; Ducks, per doz., old, $5.50@6.50; young, $6.50@7.50; Live Turkeys, per lb., 20@22c; Dressed Turkeys, per lb., 21@24c; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1@1.25; Squabs, $2@2.25.

Fruits and Vegetables.

Since the beginning of the week general trading in Fruits has been of fair volume, and some good-sized transactions in top-quality offerings have been closed at full quotations. Wednesday's business in citrus fruits was moderately active in most lines, and the appearing prices were maintained with a marked degree of steadiness.

DECIDUOUS FRUITS.—Apples, per box, common, 40@65c; choice to fancy, 75@$1; extras, $1.25@1.50; Spitzenbergs, $1.75@2; Lady apples, $1.25@2.

Pears—Per box, Winter Nellis, $1.50@2.

Persimmons—Per box, 50c@$1.

Quinces—Per box, 40@50c.

Table Grapes—Per small box, 50@65c; crate, 90@$1; large box, $1@1.50.

BERRIES—Per chest: Strawberries, Longworth, $8@12; large varieties, $3@4, as to quality; raspberries, $5@7; cranberries, per bbl., Eastern, $12@13; Oregon, per box, $2.50@$3.50.

CITRUS FRUITS—Per box: Oranges, new crop navels, $1@2.50; seedling, 75c@$1; Late Valencias, nominal; lemons, $1@2.50; extra, $3; grape fruit, $1.50@2.50; tangerines, 75@1.50; Japanese Mandarins, $1.25@1.75; limes, $4@4.50.

Under heavy supplies and a sluggish outward movement, the week's market for Potatoes developed a marked undertone of easiness, and the prevailing prices were unsteady and in buyers' favor.

POTATOES—Per ctl: River Burbanks, 75c@85c; Early Rose, nominal; River Reds, 60@75c; Salinas Burbanks, $1.25@1.45; Oregon Burbanks, 85c@$1.05; Sweet Potatoes, $1.@1.15.

VEGETABLES—Tomatoes, per box, Bay, 40c@75c; do, southern, per crate, $1@1.25; Green Peppers, per lb., 8@10c; Dried Peppers, Stockton, 5@8; southern, 11@12c; String Beans, southern, per lb., 8@10c; Wax, 8@10c; Green Peas, southern, per lb., 4@6c; Egg Plant, southern, per lb., 6@8c; southern Summer Squash, per box, $1@1.25; Cucumbers, per box, --; Mushrooms, per lb., 15@25c; Garlic, per lb., 6@7c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash, jobbing at ½@¾c per lb.

Dried Fruits, Nuts, Etc.

Aside from a moderately active inquiry for Prunes and Apricots from European centers the local market for Dried Fruits is featureless and of tame appearance, but with holders indifferent sellers, prices are maintained with marked steadiness.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 4½@6c; Sun Dried, 3¼@4c.

Apricots—Royal, fancy, 9@10c, choice, 7½c@8½c; Moorparks, choice, 9½@12c.

Peaches—Choice, 5¼@6c; fancy, 6¼@7c; peeled, in bxs, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9c.

Plums—Pitted, 6¾9c; unpitted, 1@1½c

Prunes—Four sizes, 60s to 100s, 2¾@3c for Santa Clara; other sections, ¼@½c less

Nectarines—White, 4@5½c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1903 crop, f. o. b. at common shipping points, are as follows: Imperial Clusters, $3 per 20-lb box; Dehesa Clusters, $2.50; fancy Clusters, $2; Three-Crown London Layers, $1.35; Two-Crown London Layers, $1.25; Muscatels, Four-Crown Standard, loose, 6½c per lb; do, Three-Crown, 5⅝c; do, Two-Crown, 5¼c, Seedless Muscatels, 4¼c; Seedless Muscatels, floated, 4½c; Seedless Standard Sultanas, 4¼c; Thompson Seedless, Standard Sultanas, lencias, Standards, 4¼c; do, Pacifics, 3⅝c; Orientals, 2¾c; Malagas, Three-Crown, 5⅝c; do, Two-Crown, 5c.

Seeded Raisins—Prices for limited quantities are as follows: Fancy, 16 oz, per lb, 8c; choice, 7⅝c; fancy, 12 oz, per pkg, 6⅝c.

NUTS—Per lb: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Peanuts, Eastern, 6@6½c; California, Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shell, No. 1, 12@13c; do, No. 2, 10@11c.

HONEY—New Comb, per lb, White, 12@14c; Amber, 10@12c; Extracted Water White, 5½c@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

Beans.

There is a lull in the demand for Beans and operators generally report the market in the same quiet position usual at this season of the year. Under light offerings, prices are unchanged, and are regarded as largely nominal in character.

BEANS—Price per ctl: Large Whites, $2.35@$2.35@2.65; small, do, $2.90@3.10; Pea, $3@3.10, Lima, $3; Red, $3@3.15; Pink, $2.40@2.65; Bayo, $2.15@2.25; Blackeyes, $2@2.25; Red Kidneys, $4.25@4.50.

DRIED PEAS—Green, $2.50; Niles, $2.75

Live Stock.

CATTLE—No. 1 Native Steers, 8@8½c: second quality, 7½@8c; thin Steers, 6½@7c; No. 1 Cows and Heifers, 6½c; second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5⅜@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

FRESH MEAT.

BEEF—Per lb: No. 1 Steers, 7@7¼c; do, second quality, 6½@6¾c; No. 1 heavy, 7@7¼c; thin, 5@5½c; No. 1 Cows and Heifers, 5½@6c; second quality, 5½@6c; thin, 3½@4½c

VEAL—Per lb: Heavy, 7@7½c; medium, 7½@8c; light, 8½@9½c; poor Calves, 6@7c.

MUTTON—Per lb: Light Wethers, 8@8½c; do, Ewes, 7½@8c; heavy Wethers, 7½@8c; Ewes, 6½@7c.

SPRING LAMBS—Per lb, 8½@9½c.

DRESSED HOGS—Per lb, 8@8½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13.50@16.50; Wheat and Oat, $13@15.50; Oat, $11@15; Barley, 9.50@13; Clover, $10.50@11.50; Alfalfa, $9.50@11.50; Stock, $8.50@10.

FEED CORN MEAL—Choice grades, per ton, $28.50@$29.

MIDDLINGS—Per ton, $26.50@28.

BRAN—Per ton, $19.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BRAN—Per ton, $21@22.

FEED CORN MEAL—Choice grades, per ton, $29.50@30.50.

BRAN—Per ton, $19.50@20.

COCOANUT CAKE—In lots of ten tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.35@$1.37½; white milling, good to choice, $1.40@$1.50.

BARLEY—Choice No. 1 feed, $1.11¼@$1.15; off grades, $107½@108¾; brewing, No. 1, $1.17½@$1.22¼; Chevalier, $1.30@1.45.

CRACKED CORN—Choice quality, per ton, $29@$30.

OATS—Good to choice white, $1.22@1.35.

Hops.

The price for new crop is 18@22c per lb., according to quality.

WOOL.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

Chicago, Dec. 16, 1903.

The demand for May wheat was strengthened this week by the cable reports of continued heavy rains in Argentina. Wednesday cash quotations were as follows: Flour was dull and prices off 5@10c; No. 3 spring wheat, 78@79; No. 2 red, 80⅝@84¼; No. 2 corn, 42½; No. 2 yellow, 44; No. 2 oats, 35⅛@35⅝; No. 3 white, 36@37¼; No. 2 rye, 52; good feeding barley, 35; fair to choice malting, 45@53; No. 1 flax seed, 93; No. 1 Northwestern, 1.00; prime timothy seed, 2.85; mess pork, per bbl., 11.25@11.50; lard, per 100 lbs., 6.32½@6.35; short ribs, sides (loose), 6.00@6.25; short clear sides (boxed), 6.25@6.37½; clover, contract grade 11.00.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	41,600	18,700
Wheat, bushels	150,800	45,700
Corn, "	180,900	39,100
Oats, "	214,300	125,900
Rye,	4,600	2,300
Barley, "	80,700	13,800

Chicago Live Stock.

CHICAGO, Dec. 16.—Cattle—Receipts, 24,000; lower and weaker; good to prime steers, 4.90@5.75; poor to medium, 3.00@4.75; stockers and feeders, 1.75@3.90; cows, 1.50@2.30; heifers, 1.75@4.50; canners, 1.50@2.30; bulls, 1.75@4.00; calves, 2.00@5.25. Hogs—Receipts, today, 6000; tomorrow, 45,000; 10c lower; mixed and butchers, 4.35@5.60; good to choice heavy, 4.45@4.55; rough heavy, 4.25@4.40; light, 4.15@4.45; bulk of sales, 4.35@4.45. Sheep—Receipts, 25,000; choice wethers, 3.50 @4.00; fair to choice mixed, 2.50@3.40; western sheep, 3.00@4.00; native lambs, 4.00@6.00; western lambs, 4.50@6.00.

California Dried Fruits.

NEW YORK, Dec. 16.—The market for evaporated apples shows a better demand. Prices are quoted at 4@5 for common; prime, 5¼@5½; fancy, 7. Prunes show a slightly improved tone, with holders looking for an increased demand after the holidays. Quotations ranged from 3⅝@6½ for sizes ranging from 90-100 to 40-50s. Apricots ruled firm, with a fair jobbing demand reported. Choice are quoted at 9¼ to 9½; extra choice, 9¾@10¼; fancy, 11@15. Peaches are quiet, but steady, with choice quoted at 7¼@7⅝; extra choice, 7¾@8¼, and fancy at 9¼@10¼.

CITRUS MARKETS

THE ORANGE MARKET.

The orange market in general is in a little better condition, there being a greater demand on account of nearness to holidays and dealers purchasing their supplies. The auction markets are paying fair prices on strictly fancy high colored stock, of which, however, there is but a very small proportion in the Northern Californias arriving. Too much of it shows poor color, greeness, etc. Nearly every car contains all or a heavy proportion of 80s to 126s.

Western markets show fair demand for everything in the shape of cars of desirable sizes. There is an overstock of large sizes, of which but a limited quantity can be used in the smaller western point.

The southeastern section is not open to California oranges, as there is no through rate of $1.25 east of the Mississippi and south of the Ohio, with the exception of points on the coast, where shipments can be made as far south as Virginia points.

The market on seedling has dragged very heavily, but there is a slightly better feeling on these on account of the auction markets taking them this week at a little better prices than could be gotten at western points.

THE LEMON MARKET.

The Lemon Market.—The lemon market has collapsed; there is no demand, and consequently no price of a satisfactory nature. Low grade and off size stock will hardly bring charges. The very satisfactory prices received for lemons up to a month ago probably induced heavier shipments of foreigns than would have been made under different conditions, and we are at present feeling the effects of them, as well as quite liberal shipments from California.

AUCTIONS.

NEW YORK, DEC. 10, 1903.

T. C. Porterville, Forget-me-not Navels $2.05. Oakleaf $1.80, 5% decay, pale and green.

C. C. U. Lindsay, Hollywreath, $2.10.

T. C. Lindsay, Bear and Eagle $1.55. Mt. Whitney Navels $1.80.

PHILADELPHIA, DEC. 10, 1903.

T. C. Lindsay, State Navels $2.30. Capitol $2.20. Fruit was partly green.

NEW YORK, DEC. 11, 1903.

T. C. Zante, Forget-me-not Navels, $1.75, pale green and spotted Oakleaf Navels $1.65.

C. C. U. Porterville, Mariposa Navels $1.96, pale green and spotted.

C. C. U. Porterville, Mariposa Navels $2.55. Monarch $1.65. Mistletoe $1.80, pale green and spotted.

BOSTON, DEC. 11, 1903.

C. C. U. Lindsay, Holly Wreath Navels $2.45.

C. C. U. Palermo, Yule Tide Navels $2.40.

C. C. U. Lindsay Holly Wreath Navels $2.05.

C. C. U. Rialto, Camellia Lemons $2.85. Blossom Lemons $2.35. Sunrise $2.20.

PITTSBURG, DEC. 11, 1903.

T. C. Lindsay, State Navels $2.70. Capitals $2.50.

T. C. Porterville, Forget-me-not Navels $2.40. Oakleaf Navels $2.20.

CLEVELAND, DEC. 11, 1903.

T. C. Lindsay Bear & Eagle Navels $2.35. Honeysuckle Navels $2.00. Fez Tangerines $1.75.

T. C. Lindsay Mt. Whitney Navels $1.75.

NEW YORK, DEC. 14, 1903.

C. C. U. Exeter, Mariposa Navels $3.25.

T. C. Zante, Forget-me-not Navels $1.75, coarse and greenish.

T. C. Lindsay Mt. Hamilton Navels $1.80, greenish and spotted. 7% decay. Fez Tangerines $2.95.

C. C. U. Exeter, Fancy Mariposa Navels $2.80.

C. C. U. Oroville, Yule Tide Navels $2.25, spotted and greenish.

PHILADELPHIA, DEC. 14, 1903.

C. C. U. Exeter Mariposa Navels $2.45. Mistletoe $2.20, fruit partly green.

C. C. U. Lindsay Holly Wreath Navels $2.10, green and spotted.

BOSTON, MASS., DEC. 12, 1903.

C. C. U. Exeter Mariposa Navels $2.20.

C. C. U. Lindsay Holly Wreath Navels $2.10. Fruit green.

C. C. U. Lindsay Holly Wreath Navels $2.00. Fruit spotted.

PITTSBURG, DEC. 14, 1903.

C. C. U. Oroville, Mistletoe Navels $2.20.

T. C. Porterville, Forget-me-not Navels $2.55. Oakleaf Navels $2.15.

CLEVELAND, OHIO, DEC. 14, 1903.

C. C. U. Lindsay Holly Wreath Navels $3.10.

S. T. Lamanda Sierra Madre Lemons $3.50. Red Fame $2.30. Canyon $1.65.

C. C. U. Exeter, Mariposa Navels $2.85. Mistletoe $2.50.

C. C. U. Porterville, Mariposa Navels $2.35. Mistletoe $2.10.

NEW YORK, DEC. 15, 1903.

C. C. U. Exeter, Mariposa Navels $3.10. Half boxes Sunflower Tangs. $3.20.

C. C. U. Lindsay Holly Wreath Navels $1.95.

T. C. Exeter, Perfection Navels $3.20, 5% decay and partly green.

C. C. U. Lindsay Holly Wreath Navels $2.00. Coarse, greenish.

PHILADELPHIA, DEC. 15, 1903.

C. C. U. Palermo Yule Tide Navels $2.30.

C. C. U. Exeter, Monarch Navels $1.85, greenish and spotted.

NEW YORK, DEC 15, 1903.

10,000 boxes Sicily lemons, Steamship Robinia were sold today. The condition of the cargo was good. The market is firm on 360s and weak on 300s. Fancy 300s sold for $2.25 to $2.00. Seconds $1.85 to $1.70. Fancy 360s sold for $2.25 to $2.15. Seconds $2.10 to $2.00.

There are on hand and available for sale within the next thirty days 103,000 boxes of Sicily lemons as against 77,000 boxes at this time last year. The next sale will be on Thursday, at which 18,000 boxes will be offered.

Total shipments from California this season 957 cars, of which 264 are lemons.

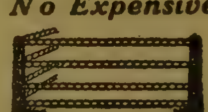
Total to same date last season 1462 cars, of which 288 were lemons.

FARMER'S INSTITUTE.

There will occur two Farmers' institutes during the holidays: Pasadena Dec. 28-29 and Glendora 30-31, closing the year. A good program is being arranged and a profitable season is assured. Let all from the localities and surrounding neighborhood be present to enjoy the good feast.

A. J. Cook
Conductor.

No Expensive Special Tools



are required to erect the

Truss and Cable Fence

Many field or netting fences require considerable skill and expensive machinery to put them up, while with ours neither is necessary. A novice can erect a truss and cable fence as well as an expert can the other kind and can put up a hundred yards in about half the time. We have a simple and inexpensive stretcher that is made to facilitate the handling of truss and cable wire but it is not necessary as any other stretcher may be used.

Write for descriptive circular.

PACIFIC HARDWARE & STEEL CO.
401 Mission Street, San Francisco.

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES

Capital $500,000. Surplus and Undivided Profits, $190,000

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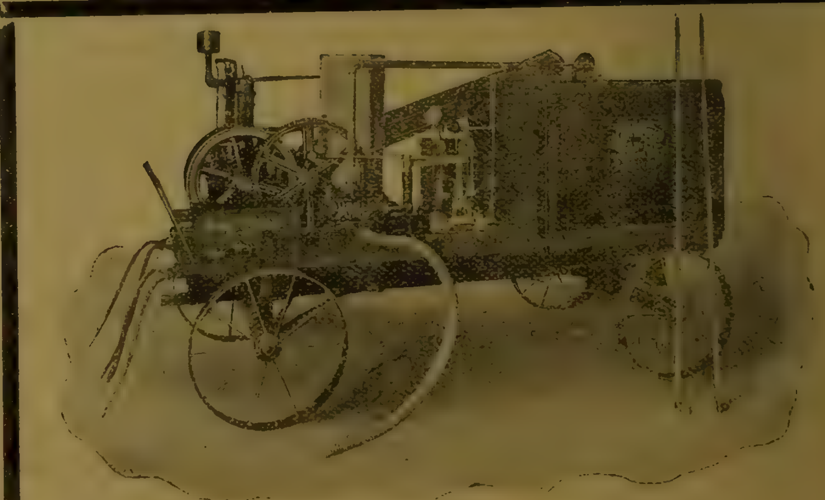

100 OUTFITS IN USE PROVE PRACTICABILITY

Saving of full one-half spraying labor bill shows economy. Scale, moss, worms and blight on trees and vines show necessity. In other words —what you need we can supply in a practical way, and save you money. Ask us where you can see a machine.

BEAN SPRAY PUMP CO., Santa Clara St., San Jose

FILL THE EGG BASKET

The Foundation of Success in Poultry Raising

Eggs are the foundation of success in poultry raising. If you do not get eggs you will not make money, and no matter whether you keep poultry for pleasure or profit, results are what you want.

SUCCESS FROM ATTENTION.

Eggs are not a matter of luck. Hens do not "just happen" to lay or "just happen" not to lay, as some think; but success in poultry raising, the same as in any other business, depends mainly upon the intelligent attention paid to details.

THE FEEDING PROBLEM.

Now, every man or woman who raises poultry knows that of the many things requiring constant attention, nothing is more important than the feeding question. Fowls must not only have plenty of feed, but it must be of the right kind or they will not thrive and prosper; and unless they do there is failure in store for the poultry raiser.

POULTRY FOOD.

As for food, the Dairymen have learned how to feed for milk and butter, the Stockman for quick growth of meat and Poultrymen for eggs on one hand and meat on the other.

THE HEN AS A MACHINE.

In many ways we regard the hen as a machine for converting raw material into eggs and flesh, and she, like any other machine, must have proper materials for her work, for she cannot manufacture eggs unless you give her something to make them with.

AN EGG NOT A SIMPLE MATTER.

As you no doubt know, an egg is not a simple matter, but is composed of a variety of substances. We know that within the shell is everything required for the formation of the chick:—bone, muscle, tissue, blood, feather, etc., this being the case you can readily realize that a variety of substances is needed to make the egg, and as the hen gets them from the food she eats it stands to reason that unless this food is of the proper character, viz: containing all the egg forming materials in the correct proportions, she will not lay, or at least not to her fullest capacity.

A chick cannot grow or a hen cannot lay unless you give them the proper materials with which to make bone, muscle and eggs.

THAT'S PLAIN.

We know how to make good Poultry Food and we do it. Coulson's Egg Food, a balanced ration, ready mixed feed that makes hens lay.

In order to get the best results from your laying hens, it is necessary that you feed them a warm mash of Coulson's Egg Food. Profits from poultry depends on how and what you feed. When hens do not lay well or at all many owners think if they look rosy, plump and fat that is an indication that they surely receive ample supplies of proper food. But there is a science in feeding. Laying hens should be fed food that makes egg production and at the same time strengthens the hen.

In order to get best results from laying hens you should feed them Coulson's Egg Food, which is for sale at almost all feed stores. Get a ton, give it a trial and make more money out of your hens.

Loading Cars With Coulson's Egg Food

Fallon, Marin county, November 10.

Mr. A. R. Coulson, Petaluma—Dear sir: My chickens were dying of cholera at the rate of 7 to 10 per day until I had lost about 400 hens. On or about August 1st your Mr. Miles called upon me and I purchased 50 pounds of your No. 3 Condition Powder and 1 bottle of Cholera Cure. I fed the hens 1 half left—about 700—7 tea cups full of No. 3 powder every morning in the mash, also put the Coulson's Cholera Cure in the drinking water according to directions, and sprayed the houses every day with a solution of crude carbolic acid and Coulson's Phenylene in the proportion of 1 gallon acid to 5 gallons of Phenylene, and I wish to say that, from the time I started to use your goods up to the present time I have not lost more than 20 hens.

And I also noticed that they were backward on the molt, but now the new plumage is coming on very fast and they look fine. I am perfectly satisfied and consider that your remedies helped me in more ways than one, for besides CHECKING and CURING the cholera they also materially helped the molt, and I can cheerfully recommend them to the poultrymen. Yours truly, James Fallon.

This recommendation comes from a locality where more than six thousand hens have died from cholera in the past three months, some poultrymen losing from four hundred to two thousand hens.

Here is another recommendation for Coulson's No. 3 Condition Powders:

A. R. Coulson Co., Petaluma—Gentlemen: My hens of which I have 1400 were dying at the rate of four hens a week. I purchased 50 pounds of Coulson's No. 3 Condition Powders last August. I put a little in their feed every morning and have not lost over six hens since. It is the best condition powder for poultry that I ever used and I can recommend it to all poultrymen. J. W. Dotters, Novato, California.

Antioch, Calif., Dec. 2, 1903.

The A. R. Coulson Co., Petaluma—Gentlemen: I have been using Coulson's Balanced Ration Egg Food for about six months and will say that my flock of birds, consisting of Barred Rocks, White Minorcas and Pekin Ducks (numbering about 450 birds) are looking better and have molted earlier than ever before, and furthermore, my old hens started to lay in November, two months earlier than ever before.

I am perfectly satisfied with your feed, for it does all you claim for it, and I can cheerfully recommend it to all poultrymen.

Wishing you success, I remain, Yours respectfully, Willis S. Rose.

P. S.--One pen of these Pekin Ducks took first prize at the San Francisco Show, Dec. 1-5, 1904.

Santa Maria, Cal., Nov. 25, 1903.

A. R. Coulson Co., Petaluma, Cal.

Dear Sir: I have used five sacks of your egg and feather food, feeding it to my hens during the molting season, and they kept on laying better than they ever did before during that period.

I can heartily recommend your egg food to any poultry raiser and it will do all that is claimed for it. J. R. Triplett.

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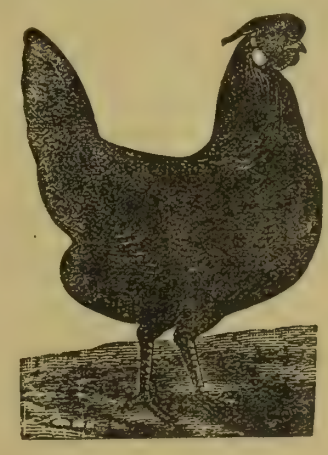

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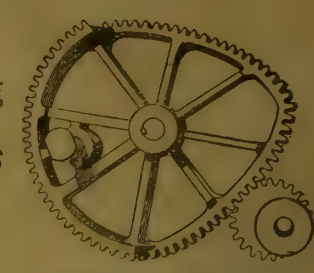
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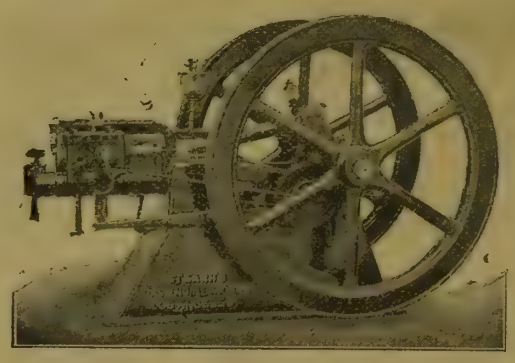

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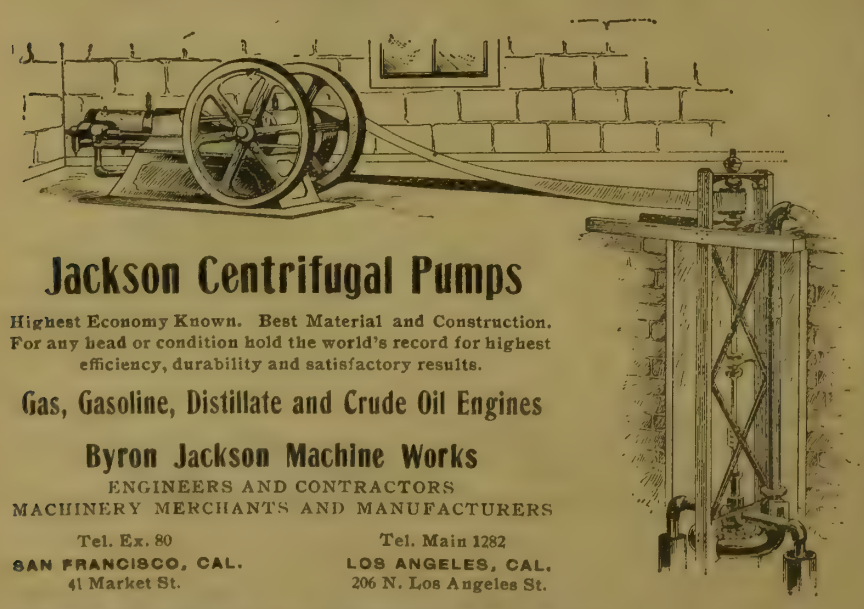

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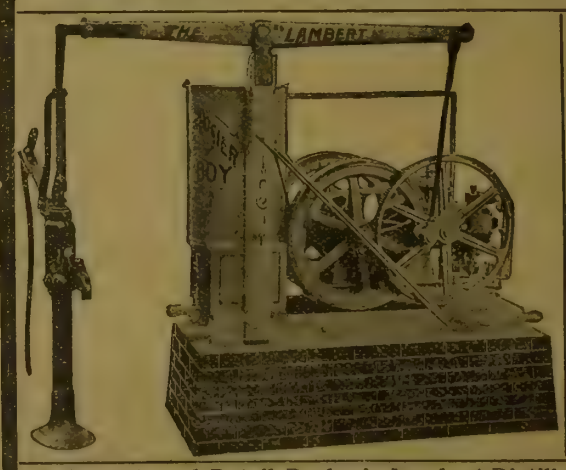

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXI—No. 26 LOS ANGELES, CAL., FRIDAY, DECEMBER 25, 1903 Subscription $1 a Year

FRIENDLY INSECTS....

By Deputy State Horticultural Commissioner Alexander Craw.

When Californians first suggested the idea of controlling the injurious insect pests of our orchards by the aid of beneficial or friendly insects, some of the prominent entomologists of the country ridiculed the proposition and one even advanced the statement that few pests meant few parasites. Certainly, if there were only few injurious insects, they could hardly be considered pests, and few parasites would be required to keep them in subjection. It is now a well recognized fact that injurious insects are those that have no parasites to keep in check their excessive increase.

Insects that live at the expense of growing plants, trees or shrubs must be considered injurious and the greater their numbers the more destructive will their presence be to the trees attacked. Some injurious insects are more or less restricted in their food habits or tastes and again others attack a great variety of plant life and on this account are difficult to control by artificial methods, such as poisons, sprays or fumigators. In the great majority of cases the latter method is the most effective, as it is far reaching and deadly, if sufficient chemicals of the proper strength are used and the tents or fumigating rooms are gas tight.

* * *

Artificial methods have in no instance exterminated or even prevented the spread of insect pests when once established in a district. Of course their too rapid increase and spread has been checked to greater or less extent by such remedies and it would be the height of folly to await the advent or introduction of a parasite or beneficial insect to destroy a pest, when it can be destroyed in great numbers by either spraying or fumigation. Extermination is out of the question with either method and the work has to be repeated at least once a year, and in the case of certain insects, from two to six sprayings are necessary in order to save the crop (as with apples and pears) from destruction by the codling moth. No member of the late Board of Horticulture, or the Commissioner of Horticulture, or any one connected with his department, has ever advocated the laisser faire or "let alone policy" with respect to the control of injurious insects for which we have no parasite or predacious insect enemy. On the contrary, numerous bulletins have been issued by this department giving directions in the methods of spraying and fumigating orchards. It was only after very heavy loss and expensive experience that we determined to try nature's method and introduce the insects that keep such pests under control in their native country.

It has been claimed that the same insects have always been in existence and the same fruits have been cultivated in the old world for centuries and we have no reason to become alarmed, but in those countries they were content to propagate and grow the same varieties their grandfathers grew, and there was little danger of introducing new pests. The bright and thrifty condition of the trees induced our pioneers of the fifties and sixties to bring or send for new varieties. The "soft brown scale" (Lecanium hesperidum) was introduced into the orchards and gardens of Los Angeles and spread with alarming rapidity. The parasites of this scale are both chalcid flies. One, Coccophagus lecanni is parasitic of the small scales and the other, Encyrtus flavus, attacks the full grown scale.

* * *

The next serious scale that was introduced was the "black scale," Lecanium oleae. This is a more general feeder and besides olive trees it also attacks orange, lemon, lime, plum, peach, apricot, pepper, oleander, crataegus, pittisporum, abutilon, pelargonium, photinias and a variety of wild shrubs and weeds. We have a native internal parasite, Tomocera californica, that in some seasons destroys from twenty-five to seventy-five per cent, but as each scale produces from 1500 to 2500 eggs, it will be readily seen that the parasite alone could not cope with such a pest, as it has but one generation each year. Another internal parasite is Aphelinus mytilaspidis, a more slender species, but not so prolific. The "black lady-bird", Rhizobius ventralis, was introduced from Australia by Dr. Albert Koebele, when collecting beneficial insects for the State Board of Horticulture of California. Twenty of these valuable beetles reached us alive, and they have been of great service in cleaning out the black scale in the coast regions. In the southwestern portion of Alameda county, Wm. Barry, horticultural commissioner of that portion of the county, made a canvas in Washington township of the orchardists having five acres and over, and learned that since the introduction of this beneficial insect nine years ago, they have saved over $171,000 for disinfection. The Rhizobius ventralis breeds the year round and destroys the eggs, larvae and adult "black scale." Unfortunately they do not appear to thrive away from the sea breezes. At Ellwood, in Santa Barbara county, Mr. Cooper, before the introduction of this lady-bird, spent from $3000 to $5000 per annum in spraying his orchards with kerosene emulsion. Since then he has relied upon the lady-birds and his trees bear better and cleaner olives.

* * *

The next serious pest introduced was the "cottony cushion scale," Icerya purchasi. This come on trees brought into Menlo Park from Australia in 1868 and in the eighties it had spread over a great portion of the state and it was such a destructive insect that the orange industry was threatened. The expensive fight made against this pest in California with sprays, fumigators, etc., resulted in more advance in the study of economic entomology than any other one thing and was the cause of our belief that nature had a more efficient and cheaper remedy where the scale was a native, than our artificial appliances.

Mr. Albert Koebele of Alameda, an attache of the Department of Agriculture of the United States, was selected to go to Australia and he discovered and sent us the Vedalia cardinalis, a lady-bird that was hardly known by the entomologists of its native country. Since then the State Board of Horticulture has taken the precaution to keep a stock of this valuable lady-bird under artificial propagation, or rather their propagation in confinement in the San Francisco office. When sending colonies of Vedalia within the state, we request the applicants to send us a box of scale infested twigs at our expense. In this way we secure food for our colonies in our breeding jars. Besides the Vedalia, we have three other Australian lady-birds that prey upon this scale alone, viz., Novius koebelei, Novius bellus, and "black Vedalia." We have also two internal parasite flies, Lestophonus iceryae, and Ophelosa crawfordi. With such a list of active workers you can readily understand that the "cottony cushion scale" has a hard struggle for existence in California.

Another foreign pest that has done serious injury to orange and lemon groves is the "yellow scale," Aspidiotus citrinus. Mr. L. J. Rose of San Gabriel, purchased a small Japanese orange tree and planted it on his Sunny Slope estate. The existence of scale was overlooked at the time. The scale spread to other orange trees in the vicinity and soon after the celebrated avenue of four rows of grand old trees appeared to be hopelessly ruined.

You all remember the hard fought battle that was waged against the so-called "San Jose scale," Aspidiotus perniciosus. Although it has a local name, it is nevertheless of foreign origin, and according to Professor C. L. Marlatt, it is a native of China. The late James Lick, of San Jose, was a great lover of and experimenter with trees and plants from other countries, and it is claimed this scale was first observed in his orchard. The "San Jose Scale" is not plentiful now in California owing to an internal parasite, Aphelinus fuscipennis, assisted by the "twice stabbed lady-bird," Chilocorus bivulnerus, and Rhizobius toowoombae.

The "brown apricot scale," Lecanium armeniacum, was a very filthy pest on prunes, apricots, peaches and plum trees, owing to the great amount of honey dew exuded by the insects. The leaves and fruit were consequently badly attacked by smut. Since its parasite,Comys fusca, became established in infested orchards, it is not so troublesome.

* * *

Twenty years ago, the large green "Katydid" did much damage to the blossom twigs of orange trees in the southern counties. It is very rare now owing to a very interesting parasite that attacks its eggs. This parasite, Eupelmus mirabilis, lays but a single egg in each Katydid egg. The latter is very flat and the mature parasite has the same character of body. Numerous other friendly insects could be mentioned but a brief review of what has been accomplished by the Southern African parasite of the "black scale," Scutellista cyanea, will be interesting. This parasite was introduced through the kindness of Prof. Chas. P. Lounsbury, Govt. Entomologist of Cape Colony, two years ago. Several colonies were sent by Prof. Lounsbury to Mr. E. M. Ehrhorn, Horticultural Commissioner and Entomologist of Santa Clara county. He bred a colony in confinement but did not succeed in establishing them out of doors. On october 1st, 1901, Prof. Lounsbury wrote me that he would send me on the following day, two boxes cantaining parasites. The packages took thirty days to reach us and we bred 17 Scutellista cyanea, and a few secondary parasites; the latter we destroyed. Only four of the true parasites were females and unfortunately one of these was killed by a small spider, leaving but three with which to stock the state. On February 17th, 1902, the Scutellista began to issue from the scales and the descendents of those three have increased to millions and wonderful work has been accomplished by them in this short time. During July I made an extended tour of the southern counties and reported my observations of the work of the Scutellista to State Commissioner of Horticulture Cooper. Since then we have had most encouraging reports from County Horticultural Commissioners, orchardists and others, showing that the good work still continues.

* * *

I have referred to some of our

(Continued on Page 522)

Christmas Time in California

CALIFORNIA CULTIVATOR

ESTABLISHED 1889
PUBLISHED EVERY FRIDAY
AT
203 NEW HIGH STREET, LOS ANGELES, CAL.
COR. SUTTER AND SANSOME STS., SAN FRANCISCO, CAL.

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

C. B. MESSENGER, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Entered at post office at Los Angeles, Cal., as second class matter.

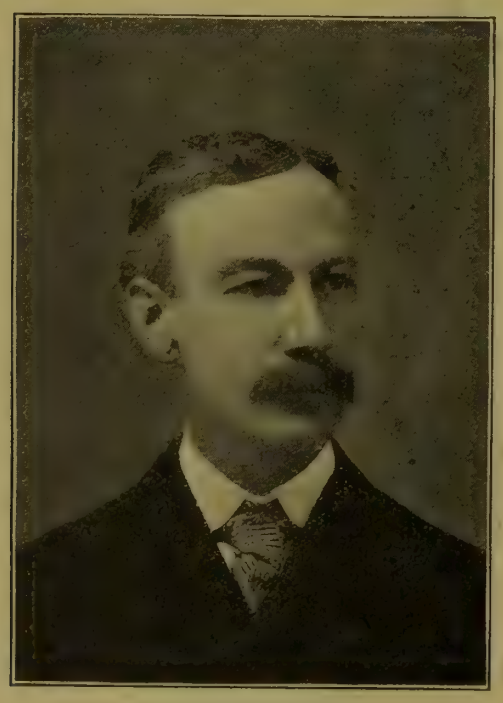
Friday, Dec. 25, 1903

THE CULTIVATOR ATTAINS ITS GOAL—TEN THOUSAND SUBSCRIBERS FOR 1904.

The Cultivator comes to its readers this Christmas week glad in the knowledge of success well earned.

The goal for which it has been striving the past year has been attained; it has reached and passed the ten thousand subscription mark.

Newspapers are, after all, much like individuals, they grow in proportion to the effort they make. They attain place and power as they fill the measure of their existence. They expand in influence as they grasp opportunities. The Cultivator may be excused if it departs from its customary silence on its own achievements, to speak of the work it is doing in the state, at the present time, as an educator of public opinion along the lines laid down for it by its owners. We think it not boastful to say that no paper



J. J. STEADMAN.

on the coast, either in California, or out of it, expends as much money for special contributors as the Cultivator. Its corps of writers cover the entire state, and treat of conditions as they exist in the locality from which they write. No journal in California attempts to parallel the Cultivator in this or other features necessary to a well rounded agricultural paper. Its contributors are the most able, practical educators in the state. They bring to their work the result of years of experimental study along the lines on which they write. They are equipped in knowledge and broadened by experience, and are recognized authorities in the departments over which they preside as contributors. No purely farm journal on this coast pays attention to the markets that this does, and its reports are as full as many of the daily papers of the state on California shipments of citrus fruits. The present owners of the Cultivator organized a campaign to attain ten thousand subscribers just a year ago. At that time the paper had less than seven thousand subscribers. It was thought, and results prove the correctness of the opinion, that there is a field on this coast for an up-to-date farm paper, with a policy broad enough to take care of all the agricultural interests of California. To make such a paper was their first endeavor. In this they have succeeded to an extent, although the maximum of excellence to be attained is a matter of the future. The Cultivator has only scored its first mile post in the race for better results all along the line. We shall make a better paper, command a greater field, and next year, at this time, write from twelve to fifteen thousand names on our books as subscribers.

* * *

Last year the paper was confined largely to the territory south of the Tehachapi. Today it reaches from San Diego to the Oregon state line, and its corps of vigilant field workers are pressing into every section of the state. Where there are two hundred subscribers in Humboldt and five hundred in Sonoma, and one hundred and fifty in Mendocino counties today, there will be double that number next year. So the ball will keep rolling until within five years there will be north of San Francisco five thousand subscribers, in Central California five thousand more, in the territory in which San Jose is located, where the Cultivator now has from fifteen hundred to two thousand subscribers, there will be five thousand. In Southern California there will be ten thousand reading patrons alone.

Why?

Because the paper will merit the increase, and because the people will be here by that time to warrant the extended circulation. In all the territory above alluded to this paper is pressing its lines—pressing its claims for preferment on merit alone. No false statements will be made by any one representing this journal in any capacity to secure either readers or business. Success will come in the future as it has in the past, from honest expression of opinion and from persistent endeavor to make a first-class paper and to get it into the homes of the people. No expense has been spared by the management to make it rank as the leading weekly farm journal in California. No expense will be denied it in the future, and if honest toil and vigorous effort and recognized ability in the contributors to its pages will avail to help it attain twenty-five thousand subscribers at the end of five years, they will be forth coming. So today the Cultivator, glad in the thought that a greater future awaits its efforts, glad that its past endeavors have been crowned with such marked success, sends greeting to its ten thousand and more subscribers, actual, bona fide subscribers, and with this Christmas greeting the wish that each and every reader of the paper may have long life, abundant prosperity and abounding good cheer in the year upon whose threshold we are just about to tread.

C. B. MESSENGER.

KEEPING CHRISTMAS.

To the tourist, sojourning for a time only, in this land of sunshine, and to the person but recently come to this state to mak his home, the absence of the snow covered hills and the sting of frost, and biting winds, causes a wonder if indeed this is only the old time Christmas season. It seems so peculiar to be without ica and snow; to hear the birds sing; to gather wild flowers; to sit in the friendly shade of the palm and acacia; to breathe the ocean scented air, so full of life and health; all this on Christmas. One can hardly realize the change. From the blizzard to sunshine and song, is indeed, a wonderous change. But this day has a meaning and thought strictly its own. No other holiday is like it. It is at once, a day for loving thoughts and deeds, a day for generous giving. "So long has Christmas been associated in the popular mind with the exchanging of gifts that we have lost somewhat the real meaning of the gifts," says a writer in the Home Campanion, "which are, indeed, only intended as symbols of love and good-will. Only to children do we give with that freedom and spontaneity which makes the gift more precious to the giver than to the recipient. To get as much as possible of this real old Christmas spirit toward one's fellows should be the engaging business of every one. We must be good to somebody on Christmas Day, and after buying toys for the children no one thing occurs to us that is so easy to accomplish and so full of results as taking a little thought for the lonely. Christmas is a festival of the family. But how many among our acquaintances are there who have no families; how many excellent old bachelors and lonely old ladies! We do not mean the poor—there are plenty of philanthropists to look after them, and they are usually well blessed with families; but a man may be as rich as Croesus, and yet if he have no place to eat but at a hotel he is poorer at Christmas than an Irishman with six children and only money enough for one meal. He belongs to a class which may well be an object of your solicitude. Perhaps they could buy you out thrice over, but you have a home and they have not. Be good to them—ask the lonely man to dinner. It is not for the dinner's sake, but the spirit in which you make them guests at your house, that these lonely people will

FRANK HONEYWELL.

bless you. And when they have told a story at your board, and dandled the children (if by good luck you have any), and sat about the fire in the evening; how much cheered and better they will go away; how it will warm their hearts to feel that somebody cared enough for them to ask them to be members of a family even for a day. That is all Christmas is for—to show other people that we love them, and to learn and be cheered by the thought that there are people who care about us."

Indicate Good Times.—John Wanamaker, of Philadelphia, the great financier, business man and philanthropist, takes the ground that strikes and lockouts are the best index possible to good times.

"What if there are strikes?" he asks. "Men do not strike in genuine hard times. And at present, the strikes are nearly all for higher wages or shorter hours. Such struggles are signs of prosperity rather than of adversity."

All of which is true. We never have hard times and strikes at the same time. Men are too anxious to earn enough to support their families without stopping to discuss wages, particularly when the country is enveloped in financial distress, as it was eight years ago. The most important thing for the American laborer to do now is, not to "kill the goose" that is laying us golden eggs. Let well enough alone.

But Mr. Wanamaker goes farther, takes an optimistic view of the future business conditions of the country and is confident the prosperous times we are enjoying will continue for at least four years longer, for he says:

"What if we had a depression in the price of stocks? That only affects those who have been gambling. The losses are not real, because the gains were only on paper. Actual money has not been destroyed. The farms, factories and mill are producing wealth in an ever-increasing volume. The railroads have all they can do carrying grain and merchandise. It is fortunate for the country that the break in industrials came soon. It checked the madness and fever of over-capitalization and points to the necessity for legislation to regulate trust methods."

FROM A BUSINESS STANDPOINT

J. W. JEFFREY.

J. W. Jeffrey is somewhat of a scrapper as well as a writer. Like the Irishman he will have peace if he fights for it. Believing strongly in co-operative marketing as the salvation of the fruit interest in which he has spent many years in writing in support of co-operative movements in general and especially of the Southern California Fruit Exchange. He fights for that principle.

This work for co-operative movements began when Mr. Jeffrey was Editor of the Azusa Pomotropic, from which his energies were transferred to the Culitvator. He is secretary of the horticultural commission of Los Angeles county.

BEGAN WITH THE CENTURY.

Four years ago it was decided, by the publishers of the Cultivator and many fruit growers and others friendly to the farmers interests, that it would benefit the cause of co-operation to delegate some one to present from time to time, facts upon the progress of the various co-operative movements that have engaged the attention of the farmers of Southern California, and to set forth the advisability of extending the idea of mutual assistance to other lines of rural industries. In following out the plan of a department devoted to the co-operative activities, it was designed to present faithfully the records of the past year in the marketing of fruits, to set forth impartially the aims and conditions of the co-operative institutions already organized for the protection of the farmers, and to suggest in a practical way how the idea of co-operation should be applied to a more extensive use. Readers of the Cultivator were then assured that this department would not be used for the advancement of any private interest, or the setting forth of any untried or impractical theory. There had been enough of achievement in the past, and reason for the application of hope for the future, to busy the pen of every one who may have had the opportunity of appeal to the farmers to engage more extensively in co-operative plans, and the writer of these lines was delegated to take charge of a department to be designated "From a business standpoint" in which the voice of the co-operators might be heard from week to week. For four years this work has been set before the readers of the Cultivator. Criticizing, sometimes caustically, but always fairly and under his own name, the writer has put down nothing in malice or defamation. In this course of plain, truthful speaking he has been supported by the publishers of the Cultivator, and the policy of fair criticism and free discussion so well established that there is now no opposition to this course among the friends of co-operative fruit marketing, whether they be members of the Exchange or of other organizations engaged in the legitimate fruit dealing at this end of the line. Outside of this department the Cutivator has invariably lent its editorial support to every plan that had for its object the betterment of the farmer and has become recognized as one of the strongest friends of co-operation in the state. The co-operative spirit now permeates every line of farming industry, and dominates most of them. The citrus industry, the business of selling walnuts, deciduous fruits, vegetables, berries, honey and many other fruits and commodities are influenced altogether or largely by mutual organizations and the spirit of further achievements is yet in the ascendency.

* * *

Brief Look Backward.—In celebrating its advent into the ten thousan figures of subscriptional patronage, the Cultivator compliments the farmers upon their achievements in building up the agricultural industries of the state, and in the masterful interprise they have shown, both in the raising of a greater, better tonnage and in the intelligence displayed in disposing of these products. In this uplifting process this journal has used every effort to assist in the establishment of bet ter methods of cultivation, in the selection of better varieties, in the improvement of processing and packing, in the introduction of the auxiliaries of farming, in stock raising, dairying and poultry raising, in business-like plans of marketing and generally in the improvement of the farming communities. The Cultivator has continually raised the hope of better conditions through mutual effort, encouraging public opinion in helping to reform commercial delinquencies, the faults of transportation, in helping to determine policies that should remove all antogonistic factors between the growers and consumers. The latter has been the theme of this department since its establishment.

A GREAT FIELD.

Sacramento, Cal., December 21, 1903.

Editor Cultivator: I must congratulate you upon having achieved the 10,000 goal for which you have been striving. I am not surprised that you have rolled up your circulation to this number, but rather that, publishing so excellent a paper as you do, you have not long since exceeded it. I have heard it said of men who have acquired enormous fortunes that the getting of the first thousand dollars was far harder work than the getting of all the rest, and so I believe it will be in your case. As the Cultivator becomes more widely known it will also become more generally appreciated, and your 10,000 will soon be buried beneath a circulation many times greater. The Cultivator has an enormous field, covering the whole Pacific Coast, and I cannot believe that you will hereafter confine your efforts to California, but reaching out will, in a few short years, count your subscribers by ten times ten thousand. You have my best wishes for this consummation.

Yours truly, JOHN ISAAC.

BUSINESS NOTES

10,000.

Ten thousand.

And a little over.

That's what the Cultivator claims.

And the Cultivator's claims go.

That is, when you see it in the Cultivator, it's so.

A year since we were publishing in the first column of editorial page that our circulation was 6800. That was good.

But we had an ambition. It was simply this.

Ten thousand subscribers before the sunrise of New Year's of '04, or bust.

We're not busted.

But the record is, and the first farm paper of this state to pass the mark of ten thousand legitimate subscribers is in your hands.

What do you think of it?

It's a hummer.

The only thing about it we're ashamed of is the price. Such a paper as this for a dollar for fifty-two numbers is not fair to the publishers.

Clean, bright and fresh stuff by a corps of competent writers in touch with the needs of the soil tiller makes good reading.

This has bound so many who "can't get on without it" to belief in the Cultivator that they prove strong friends in pushing it as well as benefitting by its advice.

Part of this advice has always been to patronize the firms which announce their goods in our columns.

This advice has been followed till the advertisers say "The Cultivator is all right; we get more returns than from all others."

So they keep advertising and new ones come in.

That's why you are reading a two-dollar paper for which you only pay half price. The advertiser pays for it.

Of course his financial returns justifies the advertiser in continuance or the advertiser would cease. Yet the reader owes to our advertisers patronage when it can be given. And when goods are wanted it is hard to imagine wherein one could not patronize Cultivator advertisers.

They are of the most progressive of the state.

They handle the best goods.

They are reliable men.

THE HUSTLERS WHO DID IT.

On first page of cover appear engravings of the field workers who have piled up the subscription list so as to give us a net increase of 3200 subscribers in the past year.

Their work has extended from San Diego to Shasta, and some of them entered fields where the Cultivator was unknown, and some, where it had been known many years. In nearly every case a kindly reception was given, and the Cultivator has grown.

* * *

J. A. W. Gates is one of the workers who has been on the Cultivator force a number of years. He has worked nearly all over the state. This year his work has been largely in the north.

Beginning in April in Marin county, across the bay, north of San Francisco, he worked north through Marin, Sonoma, Mendocino and Humboldt. From that section he sent in a thousand new subscribers. Mr. Gates is now in Santa Clara valley where the Cultivator has had a larger number of readers for some time. And even there the list of new subscribers now sent in is very large each week.

* * *

C. W. Williamson has been a Cultivator standby for years. There are but few sections of the state in which he has not traveled. For the past few months he has worked all through Ventura, Santa Barbara, and San Luis Obispo counties. Prior to that he worked in Santa Clara and Monterey. Earlier in the year in San Diego county. From all parts of the state Mr. Williamson says he hears enthusiastic words for the Cultivator.

A. W. Oliver, formerly from Oregon, more recently from Pomona, is one of the latest members of the hustling staff. In the Imperial valley alone (out on the "desert") he was only a few weeks in securing between two and three hundred new friends of the Cultivator. That valley was formerly largely Cultivator field but Mr. Oliver has captured the whole section.

* * *

H. B. Matthews has been with the hustlers only part of the past year. His home is at Riverside. His work was largely in southern counties but for the past few months he has been in charge of the work up in the great San Joaquin valley. Fresno was the headquarters and from that point many new subscribers have been reached. On south through Fresno, Kings, Tulare and Kern counties the work has been done.

* * *

Mr. Matthews' right hand helper and successful canvasser has been Albert Maring. He recently came to California, the graduate of an eastern agricultural college, and is taking this means of getting information of the great resources of this state and of doing the Cultivator some good.

Besides these, Mr. Tuttle, not now with the hustlers, made an extensive canvass of the Sacramento valley earlier in the season. His work carried him well up to Shasta county.

And so the ten thousand is reached. About 5000 north of Tehachapi and 5000 south.

Will our readers help to increase the list?

* * *

THE OFFICE FORCE.

The lower engravings on the first page of the cover have most of the beauty of the Cultivator. The people there represented have to do with the inside detail work.

Duncan L. Smith is foreman. He sets the ads that appeal to the ten thousand. And they're good looking ads. The whole appearance of a paper depends much on the ads.

J. C. Thorpe is "the lightning mailer' and is in charge of the mailing galleys. He takes the names of new subscribers as they come from the field, and through the mail, and adds them to the mailing galleys. These new names to be added each week show a net gain of 140 per week for the past few weeks. Besides these, a vast number of changes are necessary in "advancing" each name when payment is made. These changes take a great amount of time, though they are handed by towns and counties so as to simplify the matter as much as possible. But 10,000 names means much detail work.

There are 114 mailing galleys, which require nearly a half ton of type to set all the names. This large amount of type is more surprising when it is seen that only one short line is required for most names. Most of the lists are "town lists" where large packages are rolled for one postoffice, so that no postoffice address is given in the mailing galley.

The rapidity with which these papers are disposed of is remarkable. The 10,000 are usually labelled, wrapped, addressed, tied and in mail sacks by 12 o'clock each Friday, the work being started about 8 o'clock. This is 2500 papers per hour, or 40 per minute. This can only be done with the best of methods and systematic work.

After addressing and wrapping the bundles are assorted for the mail sacks. The sacks are filled in this office from which they are taken to the central postoffice and weighed, thence direct to the trains without opening. Six sacks go to San Francisco for distribution to the surrounding section, others for the coast line, others for San Joaquin valley line, and so on.

All told there are eighteen to twenty sacks, which weigh aobut three-fourths of a ton and make a good two-horse dray load. The mailing is done so as to catch all mail trains of Friday afternoon. The aim is to have the paper in all postoffices of the state by Saturday evening.

The postage bill has increased from $3, which it was a couple of years since, to $12, at present. It will require the dollar each from about 700 of next year's subscribers to pay the annual postage on the papers.

VETERINARY DEPARTMENT

DR. H. D. FENIMORE

Dr. H. D. Fenimore, the veterinary surgeon who answers the inquirers and gives prescriptions for sick animals, has a large practice in and around the city of Los Angeles and has been universally successful in his treatment of animal diseases. We have known of some cases where his suggestions as given in the Cultivator have been followed and led to remarkable results. The article this week is rather more than the Doctor usually has time to write for us, as he is compelled to confine his writing largely to immediate instructions in cases of sickness and injury of domestic animals. The Doctor has given much valuable assistance, and we believe his department is appreciated by the readers of the Cultivator.

DEVELOPMENT OF HORSE SHOES.

The earliest mention of the horse was in Egypt about 1700 B. C., while the first picture dates from about 1500 B. C. From this time on, the horse is frequently represented, both by the Greeks and the Romans, but there was not found any trace of protection to the horse's hoofs until about the time of Alexander the Great. When the great cavaliers were frequently delayed in order to let the hoofs of the horses grow that had worn their feet sore.

This led to the invention of the "Auereisen" or cure shoe. This was a thin plate that covered the whole bottom of the foot, having edges turned up with loops, or rings through which small ropes were drawn, and in this way the shoe was fastened to the foot. This mode of fastening to the shoe by ropes was not secure enough, and besides making the movement of the animal very clumsy, it wore the crown of the hoof and pastern sore. A remedy for this defect was small straps of iron fastened to the turned up border, with small beaks turned in, which were fastened in the wall of hoof, in the form of hooks. This mode of attaching evidently was also insufficient, and so the fastening of the shoe by nails was adopted in the twelfth century. The fullered shoe, made of a band of iron turned in the shape of the horse's foot, made its appearance about the time of the great crusaders, and was followed in the fifteenth century by the addition of calks. The shoe was continually improved and reached a high point of perfection before the sixteenth century, when the whole art of mechanics, and especially that of blacksmithing, had taken a great stride. This improvement continued until, at the present time, we have an infinite number of different styles of horseshoes, some of them marvels of ingenuity, and many are effective remedies in correcting faulty gaits, and uneven action. The mode of attaching the shoe to the foot with nails is a necessary evil that we must endure, until we are prepared with a substitute of less serious objections. The wall of the hoof consists of an infinite number of hair-like tubes cemented together and each tube aids in diffusing broughout the horn a fluid that nourishes and preserves it. Nails driven through the structure aid in cutting on the supply of material necessary to the foot's existance; so that every nail driven means so much injury to the foot. Various inventions in the forms of nailless horseshoes have been invented, but they all have their objections. It is to be supposed that the next will be either in the form of a soft preparation that will adhere to the foot; harden and afford the necessary protection, or that a shoe may be invented with the proper devices for application to the foot, so that an air chamber may be formed. This may be exhausted, and the shoe retained by means of atmospheric pressure.

* * *

CATARRH.

Will you tell me through the Cultivator what is the cause of a cow running at the nose. Is it indigestion? She was out to pasture last spring; shortly after getting her home she acted sick and refused to eat. I consulted a veterinary surgeon and he advised a drench of salts. Nose run then an it seemed like she could not chew good. She got better and in a month or two had an abortion at seven months. Milk came and she gave from five to six quarts. She is in good flesh, seems to feel well, but by spells nose runs. Please tell me what causes it and what to do for her.—A Subscriber.

Give one teaspoonful of eucamphol in a pint of water twice a day.

WEATHER AND CROPS.

Director McAdie reports the following weather and crop conditions for the week.

The temperature was nearly normal throughout the state during the week. Clear weather prevailed in the southern section and cloudy or foggy weather in the central and northern sections. Light showers fell in portions of the south and heavy rain in nearly all places from San Francisco northward, the precipitation ranging from 1.50 to 4.75 inches for the week.

In the northern districts the heavy rainfall caused a temporary suspension of farming operations, but plowing and seeding are well under way and a large acreage of wheat, oats and barley has already been planted. Early sown grain continues in excellent condition and is growing rapidly. Green feed is abundant and of good quality, and stock is doing well. In the southern districts the scarcity of rain and the drying winds have materially retarded farm work, and plowing and seeding are very backward; green feed is scarce and cattle are in poor condition.

With the exception of about one-half inch of rain in September and light sprinkles since, there has beeen no rainfall in Southern California during the season.

The development of Southern California oranges has been greatly checked by the recent high winds and cool nights, and picking has been partially suspended. In the Oroville and Porterville districts the orange crop is being rapidly picked and shipped. Orchards and vineyards are in good conditions in most places and pruning is in progress.

A. J. McCLATCHIE

The newest contributor of the Cultivator force is Prof. A. J. McClatchie of Phoenix, Arizona. Prof. McClatchie is an old-time Californian who was drawn on by the University of Arizona to take charge of experiment station work of the Territory. This he has done in such a manner that his reputation as an authority on Eucalypts has spread beyond the bounds of this country. That and his grasp of the larger problems of irrigation make him an exceptionally valuable contributor. His articles during the coming year should give enough information to any one who may be interested in Eucalypts and how to give best culture under all conditions, should be well worth the one dollar which any person may pay as subscription to this paper.

The Cultivator regrets that Mr. McCatchie's communication did not arrive this week, so we are unable to make the paper complete in this respect.

According to a government bulletin there are over 1,949,605 goats in the United States. They are easily raised here, still we import goat skins every year to the amount of $16,000,000 to $25,000,000.

Place Your Orders Now

(For Season 1903-4)

TREES

FOR SALE

Deciduous, Citrus and Ornamental Trees, Grape Vines and Rose Bushes

Winter Bartlett Pears

Have you heard about them? Of all pears of recent introduction, this pear takes the lead. It does not ripen until November, and will keep two months after picking. We have a good stock but orders should be booked early.

Peaches

The canners want more clings, couldn't get enough this year of Tuscan, Phillips, Orange and McDevitts. You can make no mistake in planting clings if there is a cannery in your vicinity.

Burbank's Sugar Prune

This is a great leader. The fruit is larger, sweeter, and ripens fully three weeks earlier than the French prune. No danger of having your fruit damaged by rains when drying if you plant the Sugar Prune.

Calimyrna Fig Trees

The Genuine Smyrna Fig of Commerce

To give this fig the distinction it deserves, and at the same time to honor California, the state in which it was produced, we have named it "Calimyrna," a combination of the two words California and Smyrna.

Think for a moment what the Washington navel orange has meant to the fruit industry of California and you will get some idea of the importance that should be attached to the Calimyrna Fig, which was originated by Mr. Roeding.

You may satisfy yourself as to the merits of these Calimyrna dried figs by sending to us for a sample box, which is sent to any address post paid on receipt of 20 cents.

In order to protect the planter as well as ourselves we have devised a seal, so you will find all our Calimyrna Fig Trees this seoson branded

Calimyrna
R
Fresno

None genuine without this seal.

Our Large Illustrated Catalogue mailed for 5c postage

PAID-UP CAPITAL, $200,000

FANCHER CREEK NURSERIES (Inc.)

GEO. C. ROEDING, Prest. and Gen'l Mgr.

Box 14 **Fresno, Cal.**

Glendora Citrus Nurseries

Washington Navel, Thompson Improved Navel
Valencia Late and St. Michael Orange Trees
Villa Franka and Eureka Lemon Trees
DANCY and OONSHIU TANGERINES
"NECTAR" POMELO

This stock is one-year buds on two-year roots.

1,000,000 FANCY ORANGE SEED BED STOCK

A good look at these trees is sufficient to convince the most particular buyer—send for prices.

W. G. HALL - GLENDORA, CAL.

General Agriculture

PRESERVING FENCE POSTS.

The Iowa Homestead, in speaking of the means to be taken to preserve fence posts, says: "Proper curing is the first step in the successful preserving of timber. Painting or covering of any kind is not effective unless the sap is well dried out. Decay is largely brought about through the agency of fungi, and moisture is very necessary for the growth of these lower organisms. If paint is applied while the wood is still green, the coating prevents the cells from drying out, and decay is promoted rather than hindered. An effective material for preventing decay is coal tar. This is largely employed by telephone companies and other large companies for this purpose. The tar is best applied hot, as it then penetrates deeper; the addition of a small amount of turpentine is of assistance in this regard. Professor Green of the forestry department of the Minnesota Agricultural college recommends the following formula: Three parts of coal tar and one part unsalted grease. This prevents the tar from drying too quickly and secures a deeper penetration into the tissue. One barrel of tar, on an average, will cover 250 posts. Soaking the ends of the posts in kerosene is recommended as a preservative by some. Charring, if carefully done, is also useful. A layer of charcoal is valuable for this purpose, but the work must be done carefully, however, otherwise the ends are apt to crack severely, and the charring does more harm than good."

RECLAMATION OF ALKALI SOILS

In circular No. 11, U. S. department of agriculture, bureau of soils, is published the results of experiments in reclaiming a 20-acre tract of alkali land by drainage and irrigation at Fresno, Cal.

In 1900 the bureau of soils recommended drainage and irrigation for the land in that vicinity, which was worth $350 per acre in 1889. Since that time the land has become so saturated with alkali as to render it unfit for crop production. As the farmers were unwilling to go to the expense recommended, the department decided to make a practical demonstration of the recommendation, and accordingly in December, 1902, ditching was commenced and a system of 3, 4 and 6-inch tiles were laid down. In July, 1903, practically all of the alkali had been taken out of the land so that crops could again be grown. The cost of draining this tract of land was $16.50 per acre.

Those farmers in California who are troubled with alkali in their soils should write to the department of agriculture for this circular.

DOBBINS.

Signify to the horse in some other way than by a blow or oath what you want it to do. The first way is brutal and the other way is silly, if not sinful.

Use the curry-comb, but use it mercifully; it's the dirt you are after, not the skin.

That stiff scrubbing brush the wife uses in house cleaning is a good and merciful horse cleaner. But don't appropriate her's.

So treat the horses that they will be glad to see you come into their stable, and not act as if they would like to climb through the roof.

Teach the colt when it is young and you will not have to break it when older.

Cleanliness of person and stable may not be godliness to the horse, but it is good feelingliness, which is probably more important from the viewpoint of the horse.

Rely less upon drugs and more upon good care to keep the horses in good shape. Condition sanitary will beat condition powder every time as a condition maker.

SEED BED STOCK...

Orange and Grape Fruit

Extra Fine Lot. Absolutely Clean

James Mills - Riverside, Cal.

..Fresno Nurseries..

ESTABLISHED 1889

SELL THE

Lob Ingir, or True Commercial

Smyrna Fig

Dr. Eisen, the world's authority on Figs, says the Lob Ingir is the genuine commercial variety. This is the kind we sell. We are prepared to supply purchasers with the necessary fig wasps or Blastophaga when their trees reach the proper stage. We can fill any sized order for these figs and at prices within reason,

We also have for sale a full assortment of

FRUIT TREES and GRAPE VINES

in all Leading Varieties. We can furnish

TILTON APRICOTS

in quantities at the same price at which other Apricots are sold. Our trees are grown on virgin soil, and are bright, clean, thrifty and possess a perfect root system. Catalogue free. Write us before you buy from others. Address

F. H. WILSON, Proprietor, Fresno, California

CITRUS STOCK

Season **Navels** **Navelencias** **Valencia Lates** **1904**

All stock two years old on four-year-old roots. First-class in every particular. Large, healthy, clean. No better anywhere. Write us for prices.

Mills & Masters

JAS. MILLS, Mgr. RIVERSIDE, CAL.

RIVERSIDE NURSERIES, Riverside, Cal. Fullerton, Cal., Oct. 24, 1903.

Dear Sirs—It is with no small degree of pride that I point to the orange orchard that I set out in June, 1902, with stock from your nurseries. I am not acquainted with any orchard of similar age that has done so well, and is today so promising. This certainly speaks in no uncertain language of the character of the stock coming from your nurseries. Very respectfully, CHARLES CHAPMAN.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

JOHN ISAAC

One of the newer writers on the Cultivator force and at the one of the oldest and best writers on the coast, is John Isaac. Years ago he edited a paper in San Bernardino, later did newspaper work in Los Angeles, also in San Jose, was assistant to the Secretary of the State Board of Horticulture and is now secretary to the State Horticultural Commissioner.

This wide experience fits Mr. Isaac to give information and the commendation his articles receive shows they are appreciated.

With headquarters at Sacramento, he has opportunities to be of value to our increasing list of northern readers.

THE YUCCA AND THE PALM.

Why do so many Southern Californian people and papers persist in calling the giant yucca of the desert the "Yucca Palm?" It is not in any way a palm, does not look like a palm, has not the characteristics of a palm, and is not even distantly related thereto. It is no more right to designate it a Yucca palm, than it would be to speak of an orange-apple, or to join any other two dissimilar species of the vegetable world in such unholy union. The desert yucca, is a yucca and nothing else. Its proper name is "Yucca arborescens," or tree yucca. It is a member of the lily family, and is rather a giant lily than a palm. We trust that hereafter in speaking of this great feature of our desert landscape, that the Southern papers, which at least ought to know something about it, will not attempt to force this plant into a family with which it has no desire to affiliate, but leave it in the more humble sphere which it graces and at which it stands at the head, for we are convinced that our humble vegetable friend would rather shine as the head of the Yucca family than come in at the tail end of the palms.

* * *

SIMPLE METHOD OF HYBRIDIZING

Marcus Woodward is authority for the statement that the method of crossing two fruits is simplicity itself. The horticulturist merely takes the pollen from one flower and dusts it into the stigma of the flower of another specimen. The result is a hybrid. Now, what could be easier than that? It seems that we have been wasting a great deal of admiration on Luther Burbank for doing such a simple thing, and now that the secret is out everybody will become Burbanks and we shall have an endless variety of new fruits and flowers. Why, that's as simple as the many systems of getting rich. All that is necessary is to buy things when they are cheap and sell them when they are dear. Anybody can do it.

* * *

A STRANGE FRUIT IN SHASTA.

Some one, away up north, in Redding, planted a pomelo seed and it grew and bore fruit. But no one in that section had ever seen a pomelo before and it surprised them. The newspapers there have made the most of the wonder which is described "A fruit shaped like a mammoth pear, with the skin of an orange. The supposition is that in some manner during the blossoming season a pear tree adjoining pollinated the orange blossoms, producing the freak fruit." If the writer had known the rudiments of botany or horticulture, he would have known that cross-pollination does not affect the fruit on the tree, but changes the character of the seeds and these seeds if grown produce the new variety, also it is an impossibility for trees of a distinct variety to cross. The laws of nature are uniform, the same in the vegetable as in the animal kingdom, and cross breeding does not change the individual upon which the cross is made but their progeny, and crosses cannot be made except within certain well defined lines. This much for the information of those who believe such stories as that from Redding.

* * *

GOOD FARM PRODUCTS IN THE NORTH.

The season in the northern counties is so far a very promising one. Rains have been abundant and have been followed with good growing weather. The farmers are busy in the grain fields and there will be no apparent diminution in the grain area this season. Hay has been ruling at such high prices that a very large acreage of grain is being sown with the intention of cutting it for hay. Pruning is well advanced, but is still going on in the deciduous orchards, and vineyard pruning will soon commence. In spite of the alarmists who are predicting direful results from an overproduction of fruit, the orchard area is being widely extended, and nurserymen state that their orders for the coming planting season are heavier than usual, the heaviest demand being for apples, apricots, peaches and prunes in the order named.

* * *

THE SCUTELLISTA STILL SPREAD

I am surprised at the continued reports that are being made in regard to the work of the little South African parasite of the black scale, the Scutellista cyanea, although I was prepared from my early acquaintance with it to expect much. But its spread and the results of its labors have been so much greater than I had ever expected, that I cannot but regard it with astonishment. It looks now, as though we had for the black scale an enemy that will do better work in its line than even the Vedalia cardinalis ever did with the cottony cushion scale, although it is rank heresy to say it. But from all sections where this little fly has been established repors of its spread and work are so flattering that we may now safely assert that the days of the black scale as a pest are over, and it is not improbable that we shall soon be collecting specimens of the insect as a curiosity. Now let us get a parasite for the codling moth and then we shall be fixed.

We Make a Specialty of the

Genuine Smyrna Fig of Commerce

OUR PRICE IS $15 PER HUNDRED

We also have a large stock of **Bartlett Pears, Royal Apricots, Muir Peaches and Phillips Cling Peaches.** Get our price before placing your order.

MAYWOOD COLONY NURSERY

W. HERBERT SAMSON, PROP. **CORNING, CAL.**

TREES

WALNUT and **APRICOT**

Selling fast. We carry a full line of all leading varieties of **CITRUS, DECIDUOUS** and **ORNAMENTAL STOCK.** Get our prices before buying. **PRICE LIST FREE.**

Orange County Nurseries

Richman & Mills, Props. **FULLERTON, CAL.**

BY J. W. MILLS, ONTARIO, CAL.

J. W. MILLS

J. W. Mills, one of the contributors to the Cultivator who has given long service which has been the means of greatly extending the Cultivator's popularity and of giving a vast fund of information to readers of this paper. Mr. Mills is a graduate of the Agricultural Department of the State University, and for years has been in charge of the Government Experiment Station at Pomona. This experience gives Mr. Mills peculiar qualifications to give to our readers far more than value received.

If Mr. Mills is stronger in one line than others it is in knowledge of the grape and its culture. But in citrus and deciduous trees he is exceptionally strong.

ABOUT ALFALFA.

Editor Cultivator: Will you kindly kindly tell me what kind of alfalfa seed is best for hay and how many pounds are necessary to plant an acre? Also how much grain to sow with it? —J. G. W., Orange.

Utah seed has had a run for many years with California alfalfa growers, but any clean plump seed is good. The chief point to keep in mind when selecting alfalfa seed is to look closely for weed seeds. Love vine or Dodder has a seed that is likely to be overlooked when it is quite plentiful in alfalfa seed. It is about the same size but much lighter in color and is not the same shape.

The Tulare Station reports that the recently introduced variety from Turkestan starts much quicker after cutting and produces more hay per-season than the ordinary kind.

It is necessary to get a good stand the first season in order to get a good stand at all, for an alfalfa patch that is spotted and poorly started, will never be otherwise. The only remedy is to plow it up and start over. If the seed is to be put in broadcast, about 25 pounds is the right amount of seed to sow. Of course this is a heavy sowing and is given as the correct weight for ordinary land where irrigation is not practiced for starting. On good sandy soil, with plenty of water for soaking the ground before planting, 18 to 20 pounds are sufficient. If a drill is used, 7 to 10 pounds will do on moist sandy soil.

We would not plant grain with alfalfa seed. It is just as bad as planting weeds except that some hay may be harvested the first cutting. This is no advantage as the cutting of alfalfa should be left on the ground to shade the stumps of the young plants. This is supposing that the planting is done in the late winter or early spring when most planting is done. Where irrigation is practiced on soil free from alkali, the experience of the best growers seems to show that September is the best time to plant alfalfa. If the land is properly prepared and sown immediately after a thorough irrigation, the plants will come up in a few days and be old enough to stand severe frost, and when summer comes, several crops may be harvested, while if the planting were done in the spring the whole summer would not produce more than one good crop. If the land contains considerable alkali, it would be folly to plant in the fall or early spring. Experience has shown that such land should not be planted to alfalfa until all rains are over in the spring. If a crust forms on the surface after the seed is sprouted and before the plants are large enough to shade the ground, alkali will rise and ruin the stand. Such land should be thoroughly cultivated after each rain so as to stop evaporation. This will keep the soil moist and keep the alkali evenly distributed throughout the soil and not allow it to collect at the surface. Sometime about the first of June, sow the alfalfa seed, 20 pounds per acre if broadcasted and 10 if drilled, about three-quarters of an inch deep. All of the previous cultivations should be shallow so as to secure a firm soil below the first two inches. If the harrow is used the last two or three times, with the teeth slanting well back, the land will be in fine condition for seeding. If it is broadcasted, harrow in with a harrow, just as though wheat or barley were being planted. We have succeeded in getting a perfect stand by this method by planting on the 7th of June, on alkali land, while on adjoining land, the owner failed three successive seasons in trying to get a stand in the old way of planting in the early fall and early spring. On the 15th of last July we planted an experimental plot to alfalfa on damp land that had been cultivated up to that time to keep down morning glory, and in less than a week had a perfect stand that is now 10 to 15 inches high.

* * *

CARE OF ALMOND TREES.

Editor Cultivator: Will you please give me some information through your valuable paper, in regard to the care and pruning of almond trees. We have a few soft and hard shell trees that did very well this year, though they had not special care in regard to pruning.—Subscriber, Lordsburg.

The almond requires very little pruning after the third year. During this time it should be pruned just about as a peach tree should be, giving it three main branches to form a head that will not result in crowding the branches when they become of large size. The second pruning should leave the branches at least two feet above the points of union with the three left at the first pruning. The third pruning should add another two feet to the top. After this, practically no pruning should be done for a number of years at least. When a branch becomes bent so as to interfere with others, it should be removed. Suckers, or water sprouts, often spring up from the main branches during the early summer, filling the center of the tree with dense brush. These sprouts should be removed when they first appear. If allowed to grow all summer, much pruning will be necessary during the winter in order to thin out the center. Besides, if they are not removed early in the summer, they will cause the death of quantities of fruit spurs and small fruiting branches that grow low down on the main limbs. These water sprouts indicate that the trees are thriving and are getting plenty of sap, and if they are handled as described, the sap that would go to the water sprouts will go to fill out the nuts and form more fruit buds for the following crop. Almond blossoms come from wood that grows the preceding summer, hence it is necessary to get as much growth as possible on the fruiting branches.

* * *

WIND-BREAKS.

A grower who lost heavily by the recent wind, told us that he would not want a wind-break because the wind, as it came down from above the hedge, was given a sort of rotary motion that twisted his trees more than where the wind got a free sweep at them. This has been the experience of a good many growers who have solid wind-breaks. Theory and practice both seem to affirm that a barrier that is tall, but thin enough to allow some of the current of air to pass through, is much better than a solid mass of trees or no trees at all. The effect seems to be that a body of air goes through the orchard at a reduced speed and this shuts off or causes the descending currents to rebound before they reach the trees. This method of growing a wind-break seems to apply to tracts of land of 10 acres and upward. Where ten acre tracts are divided into four sections by cross hedges, little damage seems to be done by the wind. Some of the Cucamonga growers declare that this method of growing hedges is a decided protection against frost also.

Where there is a high piece of ground running through a grove, it is always best to plant the wind-break along this higher elevation.

* * *

CURING CITRON.

In answering a question regarding this subject, we will give the method used in Corsica as observed by the late Rev. C. F. Loop, of Pomona, who visited that place and learned the method of curing the citron of commerce.

The fruit is picked before it turns yellow, yet not until it shows a change of color from the dark green to the green that indicates a change toward ripening. The fruit is quartered when large and halved when small and the pulp is removed, leaving a solid rind from half an inch to an inch thick. Sea water is used to pickle them in, but when this is not available, a brine is made strong enough to float an egg. The prepared fruit is submerged in the brine and kept in a cool place for about two weeks. At the end of this time, fermentation will have proceeded so that a very susceptible aroma is given off and if the ear is placed over the barrel containing the fruit, the escapement of gas may be heard distinctly. The fermentation is necessary to break up the oil cells and distribute the aroma evenly throughout the tissue. The fruit is then removed and cooked in fresh water until heated to the boiling point clear through. This stops the fermentation and removes part of the salt. A sugar solution of about five (5) per cent is then made and put over the fruit, brought to the boiling point and allowed to stand in a cool place for about 24 or 36 hours. If the fruit is kept in a warm place at this time, it is liable to ferment and turn sour, as we found by experience. The syrup is then drawn off and thrown away. It is not economy to use this syrup again as it is bitter and contains some salt. Another syrup of about 10 per cent sugar is placed over the fruit, brought to the boiling point and treated as before. Tihs syrup is also thrown away and one of 20 per cent used as before. The final syrup of about 25 per cent is added, with a little glucose. The fruit is allowed to remain in this for two or three days and is then laid on plates to dry. The result is a good commercial grade of citron ready to pack. The glucose is added to prevent the sugar from crystalizing and making the product hard and rocky.

There is a high grade of citron put up in California now and we are told that it is made of ripe fruit instead of that which is just turning. We once prepared some citron as described above, except that we used the ripe fruit, and a local groceryman told us it was better than the imported article that he had in stock. However, we did not agree with him, but it may have been that we were not educated up to the sudden change of using the ripe fruit instead of the green.

Chico Nursery Co.
(Incorporated)
BIG STOCK OF
Resistant Grapes
Fruit Trees
Shade Trees
Ornamental Trees
Vines Shrubs
Asparagus Plants
Sturdy Stock
Try Them
Chico Nursery Co. 308 WALNUT ST. CHICO, CAL.

NO EXCEPTION
Last year we said the Tilton Apricot was a regular bearer. NEVER FAILS. This year is no exception. Every tree bore heavily; old ones as well as the newer planted orchards.
Fifteen Years' Test
and still the
TILTON
APRICOT
Is a winner. Large, highly flavored, good color. In the dried fruits the Tilton won First Premium at the Great Central California Fair. Liked by canners. Original tree 18 years old near our nursery. Buy trees where you can get true to name buds from original stock from the Original Tilton Nurseryman. A thrifty lot of peaches and other deciduous trees.
J. W. BAIRSTOW, HANFORD, CAL.

PROF. A. J. COOK.

Prof. A. J. Cook of Pomona College, formerly of the State University of Michigan, the author of works on bee culture and insect life and writer in the Cultivator for so many years that he is probably as well known to the ten thousand subscribers of the Cultivator as he is to the proprietors. He may not need any introduction from us, however, we may say that Prof. Cook's interest in this paper has been no small factor in its growth.

Prof. Cook's speciality where he is stronger than anything else when working for farmer's interests, is in inspiring the organization of Farmer's Clubs and in conducting institutes, Clubs and in conducting institutes auspices of the State University.

A. B. C. OF INSECTS

(Continued)

In our stroll through the insect world, we have now come to the next to the last order of insects—the Moths and Butterflies or the Lepidoptera. These are usually regarded as the gems of the insect world, and indeed they are of rare beauty; yet I think that many beetles and not a few Chalcid flies easily rival even the most attractive butterfly, or moth, in beauty.

The word Lepidoptera means scale-wing and is appropriate, as the four wings of these insects are covered with scales of varied hue and pattern and thus it is that they are so beautiful. As all know we must handle these gems of nature's own fashioning with great care, or we greatly mar their beauty. This is easily explained, we rub off the delicate scales and thus mar the color mosaic of these organs.

The mouth organs of the larvae, or caterpillar, are typical of the biting type. In the imago or mature insect, however, the mouth organs are profoundly modified. Here we find a long sucking tube. In some of the species, like the sphinx moth, this tongue is very long, enabling them to reach deep down into the long tubular flowers. This tongue consists of the two maxillae which are both grooved on the inside and so when they are closely approximated they together form a closed tube. In some moths this tube is almost wanting. This is true of all the silk moths. Except these maxillae, the mouth organs are very abortive, if we except the labial palpi, which curve up and closely embrace the rolled up tongue, one on each side. The imago feed but little, and this little consists of nectar or water.

I hardly need to say that the transformations are complete. The caterpillars are either hairy or smooth and usually have sixteen legs. Some like the measuring worms or loopers have only ten legs and a few show twelve or fourteen legs. Some of the Noctuid or night flying moths like some of the cut worm moths have fourteen legs at first, and sixteen afterward. The pupa of Butterflies is called a chrisalid. These have no cocoon but hang up all exposed to twig, wall or leaf. Many are suspended from the under side of the leaves that the caterpillar has not devoured. The pupae of moths are variously protected. Many, I think most, spin cocoons, like the silk moths, others like the sphinx and noctuid moths pupate in the earth. A few like the peach borers pupate in their own chips.

I hardly need say that this is one of the destructive orders. All feed on plants, and so in case the plants are useful are our enemies. The thistle butterfly which is on occasional years so common that it swarms about us in countless thousands is of this kind. It works on weeds and we may well wish it all success.

Caterpillars are great feeders. One can hardly appreciate this till he has once fed a group of caterpillars. Those who have fed the silk worms will need no words to impress this fact.

Lepidopterons, economically fall under two groups. All feed on plants and so like the locust order, are injurious to vegetation, yet some are of paramount value. I refer to the silk moths. These give us a product that amounts to millions of dollars in value each year. As yet silk raising is of little importance in the United States. France and other European countries have grown the insects so long that they are very proficient in the production of silk, and we, owing to the higher price of labor, find it difficult to compete with them. Some are enthusiastic enough to believe that we could do so.

Of the injurious species, most do harm by feeding on the foliage of plants. Several feed on fruit. A few, one whole family, are exclusively borer one whole family, are exclusively borers. Some keep the weevils company and feed on stored grain, and others like the clothes moths feed on house hold products.

In our next we will refer to the most conspicuous of these enemines and give hints as to the combatting them.

* * *

ORANGE CATERPILLARS.

A. G. Simmons, Redlands, sends me an orange containing a caterpillar and what he thought were eggs. He asks if it is dangerous. The coloration or orange led to its discovery. This is the quite common orange caterpillar and the supposed eggs are the droppings. Prof. Craw has known these caterpillars to be in Southern California for twenty years. I have known them since I came here ten years ago. These caterpillars are the larvae of a Tortricid moth, one of the leaf rollers. It is closely related to the codling moth. The caterpillar feeds for the most part on foliage, but occasionally resorts to the fruit. It seemed to increase very little and I think need cause little apprehension.

I do not think more than one orange in a hundred has been affected even in the worst years and in the worst affected orchards. The caterpillar bores through the peel and works in a little burrow which is often concealed by a slight web. As is the case with the codling moth larva in the apple, so this caterpillar causes permature ripeness. If the insect ever should become alarmingly prevalent, it might be desirable to gather and destroy the affected fruit, or at least, destroy the caterpillar. The early coloring of the orange would, I think, make this practicable. I am glad our orchardists are on the sharp watchout for such pests as it promises quick detection should the terrible Mexican orange maggot gain access to our orchards.

* * *

OAK GALLS.

G. W. E., Santa Monica, wonders if oak galls are seriously injurious. He says he knows the nature of the insect, but their rapid increase on diseased trees made him anxious. He wonders if a remedy is called for. As Mr. E. knows, the galls are the result of the egg laying of a minute fly. This stimulates to extra growth and the galls result. One great family of the bee and ant order,—Cynipidae—all produce these galls, and nearly all infest the oak, at least that tree is the favorite. The galls are often beautifully colored and are well named oak apples. The larval Cynip uses the gall both for home and food. After it has reached its growth inside the gall it finally emerges as a fly to again lay its eggs. The hole in old galls shows where the fly made it exit. I do not think these flies materially injure the trees. Their increasing numbers indicate that the past year or years have been favorable to these species. I do not think their presence is owing to the diseased state of the trees. Very likely next year they may be very much less in number.

The oak twig borer also troubles Mr. E. These are long horned beetles and do often work a good deal of mischief. In all such cases, where the trees are not too large, the twigs as soon as they show by their dying leaves that the bores are present should be cut off and burned. This is the best practical way to treat all twig borers.

Mr. E. is further troubled with the borers on the body of the tree, just under the bark. These are undoubtedly bigheaded borers or Bupestrids. As I stated in a previous number of the Cultivator, washing the tree trunks in early spring with soft soap or a strong soap solution will prevent egg laying and so forestall the mischief. In case of large trees, it is usually safe to neglect treatment for both twig borers and the big headed borers, especially in case of large forest trees.

I would thank Mr. E. if he would send me speciemens of both these borers.

* * *

SAN JOSE SCALE.

Subscriber, Almaden, Cal., asks for remedy for the San Jose scale. Spraying with the salt, lime and sulphur wash in winter is the approved method of fighting this pernicious scale. Subscriber should send either to Berkeley or the Horticultural Commission, Sacramento for the bulletin on Insecticides. Every one should have this in his possession. Let me urge that in preparing this salt, lime, and sulphur wash that the time of boiling be not stinted. I have found the wash less effective in case of under boiling.

* * *

APRICOT SCALE.

D. D., Edenvale asks for treatment for the brown apricot scale. I would suggest that he secure through Mr. Ehrhorn of Mountain View, Entomologist for Santa Clara County speciemens of the little chalcid, Comys fusca. This is a very effective enemy of this scale and is usually enough to practically eradicate it.

The same advice applies to M. H., who also inquires about treating scale and spiders. The bulletins mentioned about give explicit directions.

* * *

THE CULTIVATOR.

I wish to congratulate the proprietors of the Cultivator, on the phenomenal success of the paper. I acknowledge to a little bias, and so would hardly feel like trusting implicitly to my own judgment as to the exceeding worth of the paper, except that I have heard such hearty and frequent commendation from others. Many have said to me during the last few months that it was one of the very best agricultural papers published in the country. Its exceptional growth of late, most gratifying proof that its value is widely appreciated, emphazies the fact that our people are alive to the best things, and are quick to grasp the helping hand. The requisites of a first class agricultural paper are that it shall be up to date; shall lead in all lines of agricultural progress, shall keep in touch with the best practice in all the region where is circulates that its readers may be fully informed in all methods that will help them to better success. It is very evident that the Cultivator is sparing no pains to accomplish all in these several directions. This is why I have heard so often such remarks as Mrs. Sherman made to me a few days since, that she regarded the Cultivator as one of the very best papers that came to her table, and she takes nearly all of the leading agricultural p pers of the country. She said that it easily leads all others in value as an advertising agent, and she gave me permission to make this statement. I am glad that the proprietors are resolved to utilize their prosperity in enlarging the paper and making it still better in every department of its work. It is also gratifying that the managers of the paper have no time for contentions or captious criticism but are resolved to hold the paper steadily to a high toned presentation of agricultural truth and advancement.

GO TO GARDENA

Gardena is located in the center of the broad fertile valley between Los Angeles and San Pedro; has two electric lines giving the very best facilities for marketing products.

It is without rival in regard to climate, soil and water supply.

The soil is adapted to berries, alfalfa, vegetables, walnuts, etc.

To illustrate what can be done, we visited the model ten-acre ranch home of Messrs. Burge and Michael near Gardena. They kindly gave us an itemized statement of sales of produce for the year 1903. The walnuts (nearly 4 acres) were sold for $731.79; small fruits, vegetables, hay, chickens, eggs, cream, etc,, $818.77, making a total of $1,550 56. Can you ask for a better investment?

For Sale, 10 Acres, $4500

House of 6 rooms, barn, farming tools, hay in barn, 1 horse, chickens, etc. One acre in alfalfa, balance in orchard, mostly apricots. $2,000 cash, 6%, good time.

5 Acres, $2,000

Three acres young strawberries; balance alfalfa and garden. Horse, cow, buggy and farming implements.

5 Acres, $1,400

Two and one-half acres new strawberries,

20 Acres, $2500

One acre strawberries, 3 acres apple orchard; 7-room house; barn. Easy terms.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset with bearing fruit trees. Berries, one acre of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house' sheds, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house and barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

W. M. GRAY
Gardena, Cal.

D. A. PEET.....
GRAPE NURSERY
All the latest varieties. *La Canada, Cal.*

CITRUS NURSERY STOCK
Valencias, Washington Navels and Eureka Lemon Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.
PERRY LEWIS **TUSTIN, CAL,**

Geo. B. Warner's . . . Est. 188
Orange County
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SANTA ANA, CALIFORNIA
Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Loquats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.
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Trees Fruit and Ornamental Shade Trees for Street and Roadside
Olives, Oranges, Lemons,
Grape Vines, Resisting Vines
NUT TREES:
JORDAN ALMOND,
Chestnut, Walnut and Pistachio Nut
Complete Stock of Large Palms, Evergreens, Roses, Climbers and Flowering Shrubs.
New Catalogue of 72 pages mailed free.
California Nursery Co.
John Rock, Manager. Niles, Cal.

3-HORSE POWER
Webster Gasoline Engine.
RUNS LIKE A WATCH. FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP. RUNS ANY KIND OF MACHINERY.
SEND FOR CATALOGUE 31
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312 Market St. San Francisco, Cal.

POMONA DEEP WELL PUMP
Long stroke, steady movement, runs smoothly, perfectly noiseless.
POMONA MFG. CO., POMONA
or Fairbanks, Morse & Co., Los Angeles

USE...
California Portland Cement
MADE AT COLTON
Guaranteed for Uniformity, Strength and Durability. In successful use everywhere in Southern California for foundation floors, sidewalks, flumes, pipes, etc. Let your patronage build up Southern California, not foreign countries.
SEND FOR CATALOGUE
California Portland Cement Co.,
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We have LAND PLASTER for sale

Eucalyptus Trees
♠ ♠
Are are specialty. We have an extra large stock of strictly first-class gum trees for sale this season, consisting of twelve varieties extra fine large plants. We are headquarters for
Citrus Seed Bed Stock
Orange, Pomelo and Trifoliata
the great frost resistant. Citrus and deciduous fruit trees, grape vines, ornamental trees and shrubbery, roses, palms and potted plants. Send for catalogue and information.
The J. W. Armstrong Nursery Co.
Suc. to the Brennan Armstrong Nursery Co.
POMONA, CAL.

Coast News and Notes

BY R. A. DAGUE, COR. SUTTER AND SANSOME STS., SAN FRANCISCO

R. A. DAGUE.

Ex. Senator R. A. Dague formerly from Iowa but now a resident of Alameda, from which place he goes each morning to our San Francisco office, is an old newspaper man of many years of experience who picks out the newsy items from all over the State and gives our coast news. We believe this department is adding to the popularity of the Cultivator in this that it gives the gist of the news in a few words. This gives the busy farmer an opportunity to get a general view of the State without running through columns of stuff to secure it.

AGRICULTURE.

The potato crop of Great Britain is very poor.

Oregon is sending large shipments of potatoes to San Francisco.

The California loganberry is finding great favor in England.

The exports of hemp from the Philippines will be large this winter.

The Spreckels Sugar Company is offering $4.50 per ton for beets, at the factory.

The beet sugar industry is developing rapidly in Utah, Idaho and Colorado.

Oregon wheat is being rushed to market. It is bringing at this writing 65 cents a bushel.

An eastern seed firm will buy 150 acres near Modesto and engage in raising seeds for the market.

The celery output this year of Orange county exceeds by 450 carloads that of last year, or about 2000 carloads in all.

The California Raisin Association distributed this season in Fresno and vicinity over $2,000,000, hence the prosperity of that locality.

H. B. Wagoner's winery at Livermore has finished the season's work. It crushed 1650 tons of grapes, filling 250,000 gallons of cooperage.

Recently 1200 bales of hops were sold at Santa Rosa at 22 cents per pound. The entire crop of Sonoma county has nearly been disposed of.

Prof. G. W. Shaw of the State University says that from analysis made, beets of a high grade can be grown at many points in the Sacramento valley.

Supervisor Mann has put on exhibition at the Chamber of Commerce in Monterey a pumpkin raised on his ranch that weighs 302 pounds.

The cotton boll weevil first came to Texas from Mexico in 1894. The pest is now spreading, and unless checked may ruin all the cotton crops of the South.

Valuable seeds and plants for California growers are now ready for distribution by the agricultural department of the State University. Write Prof. E. J. Wickson for them.

The Legislature of Louisiana is now trying to devise means to destroy the boll weevil pest. This pest damaged the cotton crop of Texas this year to the amount of $50,000,000.

The United States government has commenced irrigation work in Lake county. It is stated that Uncle Sam has $2,000,000 on hand to spend in perfecting irrigation work in this State.

A trade authority estimates the output of canned tomatoes in the United States this year as between 7,000,000 and 8,000,000 cases, considerably less than the 9,000,000 cases put up last year.

Active work has been commenced on the great wheat starch factory at Stockton, heretofore mentioned by the Cultivator. There will be three large building, and it will be ready for business in March. This is the only wheat starch factory west of Chicago.

The Portland Oregonian says there is a large oversupply of Italian prunes, and the market is "flat as a pancake." The fact is, and it may as well be recognized, that the prune trees of the world will produce, one year with another, more prunes than the world will consume except at a very low price.

James Wilson, secretary of agriculture, says this year's corn crop again exceeds 2,000,000,000 bushels. Foreign markets were supplied last year with 3,500,000,000 pounds of American cotton. The value of farm products this year, outside of what was fed to live stock, is nearly $4,000,000,000.

Acting on the suggestion of Prof. Hilgard, as well as the advice of an eastern manufacturer of mattings, the Oakland Board of Trade will go into the cultivation of the tule-grass on a small scale, to demonstrate the fact that Alameda county is well adapted to its cultivation. Most of our mattings come from Japan, where the tule is worth $40 per ton.

C. F. Marlatt of the U. S. department of agriculture, an expert in silk culture, says California will eventually be a great silk producer. Mr. Marlatt and Andrea Sbaroro of the Italian-Swiss colony of Asti, are conferring relative to the proposed establishment of a colony of silk workers for the production of silk on a large scale at Asti, Sonoma county.

HORTICULTURE.

Japanese oranges are now arriving at San Francisco. They are of fine quality.

The Highland Orange Growers' association has been organized, capitalized at $10,000.

It is now claimed that formaldehyde as a preservative of citrus fruits en route will supersede refrigeration.

For the past three weeks a train of 20 cars loaded with oranges from Tulare county has passed through Visalia daily.

The fruit jobbing firms in territory bounded by Chicago, Denver, St. Louis and Winnipeg, are to be joined in one combination.

W. R. Gibson of Woodland has received some shellbark hickory nuts from Missouri and will plant them, hoping to grow the tree here.

Regular tri-weekly auction sales of citrus fruits were inaugurated in San Francisco, December 16. Six or seven carloads of oranges were dispsoed of.

There will be a shortage of orange boxes in San Bernardino county, owing to the late destruction by fire of the sawed lumber in that vicinity.

Ben Thomas of Delano this year grew some oranges that weighed 15 ounces and measured 12¾ inches in circumference.

The shipping season of deciduous fruits of Northern and Central California is ended. There were sent out 7500 carloads, as against 7360 in 1902.

The Santa Rosa Republican says: The fruit dealers' conspiracy at San Francisco must be put down with all possible dispatch.

A. W. Wheeler of Tulare has an orange tree in his yard that bore this year 1000 oranges. One small branch had hanging to it 16.

Harry H. Brown of Naranjo, Tulare county, has a young orange orchard of 80 acres. He gathered his first crop this year. His oranges are of the finest variety.

The fruit packing house of D. H. Paul & Co. of Fresno was destroyed by fire the 17th. Raisins to the value

Arizona Everbearing Strawberry Plants
Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

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Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

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Trees that will please you, five varieties. In budded trees we have a nice lot of Navels and Valencias, one-year buds. Correspondence solicited.
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Want Some Citrus Trees
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Contract now for spring delivery Washington Navel & Valencia Late trees also grape fruit or orange seedbed plants for nursery
POLLARD BROS.
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Send for our Illustrated and Descriptive Catalogue of
CITRUS AND DECIDUOUS FRUITS
DIFFERENT VARIETIES OF EUCALYPTUS
ORNAMENTAL VINES, ROSES
and everything for the orchard and garden.
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FINE ORANGE TREES
One-year Buds on two-year roots.
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If you are thinking of using fertilizers you will be interested to know that ninety-eight per cent. of our contracts have so far been renewed. This means that we have rendered good service by intelligent direction in the use of fertilizers, and saved our patrons money as well.

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DIRECTOR FERTILIZER CONTROL

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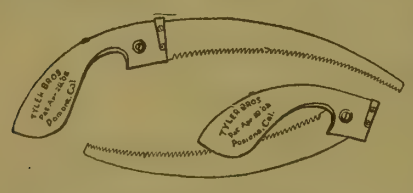

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DEALERS WANTED EVERYWHERE.

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SUNNYVALE, CALIFORNIA

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Apricot—Blenheim, Hemskirke, Mcorpark, Bragetti, Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings, etc.
Prunes—French, Imperial and Sugar.

Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

F. C. WILLSON, Prop

THE **Vernon Nursery**

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,

Station K, LOS ANGELES, Cal.

Coast News and Notes

CONTINUED

of $30,000 were lost. Insured for $22,000.

Capt. William Crosby of the Arroyo Valle, near Livermore, has a superior lot of sun-dried prunes. He uses no dip and the flavor of his fruit is superior to the doctored article.

Pruning of orchards and vineyards in the Sacramento valley has been going on actively the past two weeks. Following this will come tree washing and spraying.

The first work at the Lodi government experimental station will be to ascertain which resistent roots are the best, and which are the best grafts on these roots. Over 60 varieties will be tested.

R. P. Grant this year raised some excellent lemons in his yard in Visalia. Heretofore no especial effort has been made to grow lemons to any extent in that vicinity. It has, however, been proved that they do well there.

At the late Fresno fruit convention it was suggested that the matter of scarcity of help to gather fruit during the summer and autumn could best be met by inducing eastern families to come here and permanently locate.

The orange men of this State insist on a lower shipping rate than $1.25, for when that rate was fixed there were less than 10,000 carloads of oranges shipped by rail annually. This year the shipments will amount to 30,000 cars.

So far the harbor commissioners at San Francisco have revoked the permits of nine wholesale fruit and produce dealers to transact business on the wharf, because they refused to sell to retailers who were not in the combine.

California prune growers have difficulty in getting more than three cents a pound for their fruit, while French prunes sell in Spain for 28 cents per pound. Jerome Hart, who writes about it, says the reason why the French prune sells for so high a price is because they are cultivated, gathered, dried, selected, packed and shipped carefully.

There is a sentiment growing among orchardists that prune growing in California is overdone. The San Francisco Chronicle says: "There are probably as many sugar prune trees now planted or grafted as ought to be put out until the commercial status of that fruit is better settled. Growers may think what they please about a new fruit, but the only real test of its value is the market."

LIVE STOCK.

A show of fat stock is to be held in San Francisco next March.

Six carloads of Eastern poultry arrived at San Francisco last week.

The Stockton hospital farm and dairy product was last year valued at $12,843.

A co-operative creamery is to be established by the farmers of Indian Valley, Plumas county.

The supervisors of Tulare county have abolished the office of county veterinarian in that county.

Waltz & Hale of Pendleton, Oregon, have this year shipped 50,000 sheep at an average price of $1.32 per head.

Mr. T. Knight has brought 14,000 Angora goats from Oregon and put them on his ranch of 1100 acres near Napa.

The poultry market in San Francisco is well supplied for the holidays. Seven or eight carloads of Eastern poultry were received for Christmas.

W. H. Bain of Visalia, who owns one of the largest dairies in the valley, announces that he will sell out to go into other business. Last week he sold 13 fine shorthorn bulls to C. L. Adams.

The Visalia Delta enters into a argument in which it insists that there can be no better place for the pleasant and profitable prosecution of the poultry-raising business than in Tulare county.

Gov. Pardee will appoint delegates to attend the National Live Stock and National Wool Growers' seventh annual convention to be held at Portland, Oregon, January 11 to 15, inclusive.

The Sacramento Union says that during the past five years the counties of Fresno, Tulare and Kings have come to the front as butter producers, but the industry is still in its infancy. Fortunes are yet to be made by the dairymen in California.

State Veterinarian, Dr. Blemer, still insists on keeping a strict quarantine in force in Santa Barbara and San Luis Obispo counties to stamp out the cattle diseases there. The cattle men of those counties have formed a live stock association to fight the disease.

Nine hundred sheep belonging to A. A. Curtis of Okanogan county, Washington, were killed one night by unknown parties. Mr. Curtis charges the outrage against the cattlemen, who claim that sheep use up the pasturage. Mr. Curtis has appealed to the President to protect the sheep men.

The Sonoma County Poultry association have elected the following officers: H. Graff of Petaluma, president; W. H. Creighton of Penngrove, secretary; Mr. Lawson of Novato, treasurer. The other directors are J. F. Hiner and J. W. Waterman. H. D. Pressey of Petaluma was appointed state organizer.

MISCELLANEOUS.

A Farmers' Institute will be held at Florin, January 15 and 16.

The Southern Pacific company will pension 125 employes who will be retired January 1.

Gen. Viljeou of South Africa is looking over Southern California seeking a location for a colony of Boers.

It is given out that white porters alone will be employed in the Union Pacific sleepers and "tipping" will be forbidden.

Traffic Manager Stubbs of the Suthern Pacific says the entire country is suffering from a shortage of freight cars.

Kings county has withdrawn from the joint exhibit plan with Tulare and Kern counties, and by its action has upset all the plans laid.

The French-American Wine Company is preparing to erect another large winery at Healdsburg. They crushed 1300 tons of grapes this fall in their present winery.

Recently ships leaving San Francisco for Japan and China, have carried heavy consignments of flour. Australia and Asia are drawing on this country heavily for breadstuffs.

The steamship "Indrapura" has just brought to this coast from the Orient 40 tons of silk worth $200,000. The silk came from Yokohama, and is the largest importation of silk ever made by single shipment into the West.

The people of Santa Clara county are alarmed over the danger that their fresh water will be appropriated by the water company that supplies San Francisco and Oakland, and have taken legal steps to protect themselves.

There is a surplus of over a million jute bags on hand at the San Quentin prison. Farmers had engaged them and deposited 10 per cent. But not needing them, forfeited the deposit. The prison fund is therefore short $60,000.

For two years the oil consumption of the world has exceeded the production. The stock of crude Pennsylvania petroleum above ground in December, 1900, was 13,174,717 barrels, while in December, 1902, the amount thus stored was only 5,699,127 barrels.

Four thousand independent telephone companies in Illinois, Wisconsin, Kentucky, Missouri, Iowa, Indiana, Pennsylvania, Nebraska, Minnesota, Ohio and Michigan, involving property valued at more than $200,000,000, have been amalgamated.

Yolo county will exhibit at the World's Fair samples of Japanese buckwheat. It was planted August 1 and harvested September 16. It yielded 2146 pounds to the acre. It sells for 2 cents per pound, and is therefore more profitable than barley. It makes a splendid flour.

WANTED—Orange Groves or Orchards to care for. Thorough, experienced hand. Will furnish good team.—J. L. CONRY, CLEARWATER, CALIFORNIA.

TOLUCA NURSERY

Blackberry, Raspberry, Loganberry, Strawberry. Full line of Nursery Stock.

TOLUCA NURSERY

G. TEOSETTI TOLUCA, CAL.

STRAWBERRY PLANTS

500,000 plants of all the leading varieties, GROWN FROM PEDIGREE STOCK. Interested parties invited to visit our place and see Brandywine and Belts in full bearing.

MILLER & CORSON

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BERRY PLANTS

Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
For descriptive list address

W. J. EMBREE,

Rural Box 61, El Monte, Los Angeles Co., Cal

150,000 Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

F. P. Baldosser, Covina

ONE MILLION

Gardena Dewberry

PLANTS FOR SALE

A. R. RIDEOUT Whittier, Cal.

BRANDYWINE STRAWBERRY PLANTS

Well rooted plants on good, vigorous stock. Price, $1.50 per thousand.

W. A. LEE · COVINA, CAL.

Berry Plants

Lady Thompson, Brandywine, Excelsior. Guaranteed Eastern Stock. Also Gray's Dewberries and Blackberries. From this A1 stock in virgin soil you will get plants that will give you the highest results Write today.

J. PARSONS - GARDENA, CAL.

BERRY PLANTS

Arizona Everbearing, Saxton's Noble, Excelsior, Brandywine, Sample P. Coruuna Mexican Gladsione, Gray's Gardeua Dewberry, Loganberries and Blackberries.

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This is a wonderfully productive berry. Write for descriptive circular and price list. Also grower of Mammoth Blackberries and Gray's Gardena Dewberries.

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A Perfect System of Heating with Distillate Oils. Made in sizes for Stoves, Ranges, Bake Ovens, Furnaces and Boilers. Send for circular

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C. H. SESSIONS, ASSOCIATE EDITOR

C. H SESSIONS.

C. H. Sessions is more of a doer than he is a writer. His suggestions and helpful ideas have been of value in the columns of the Cultivator, but his private interests have prevented our having as many original articles from him as we would like. Mr. Sessions, with Mr. Platt of Los Angeles, are the owners of the Belle-Vernon Farms Co., which supplies the city of Los Angeles with a large part of its pure milk. The responsibilities of this business keep Mr. Sessions occupied.

BETTER BUTTER ON THE FARM.

"All are agreed," says Dairy and Creamery, "that there should be an improvement in our dairy butter, and that there is a loss on account of inferior quality, many tons selling each year at a low price, even then bringing all it is worth, but not paying the cost of production.

"There has been an improvement during the past few years, not all by any means that there should be, but there are many private dairies making fine butter and putting it up in good shape, and receiving the highest prices for it, but there is still too much low grade butter made.

"In suggesting how our dairy butter may be improved, I would like to first say that some aim should be made to get a more uniform quality. Even in the same section can be found as many different grades as makers. The color, salt, flavor, and package are all different. If we could get our butter dealers and the farmers with wives and daughters interested in a certain system, either by the aid of a traveling dairy or an instructor, meeting together two or three days in one section, giving and receiving instruction, and start from that, all making the same grade, each farmer to put his name on his package and receive for it according to quality, it would raise the standard in that section.

"The proper ripening of cream is one of the foundations for making good butter. A farmer should have a proper utensil to ripen cream in. It is not necessarily an expensive one, but one in which he can regulate the temperature. There are, like the churns, all kinds of places and vessels used, from the crock in the corner near the woodbox to a better contrived plan. In many cases flavors are introduced while the cream is being ripened. Some butter makers try to finish the ripening process in the old churn, letting the age of the churn act as a starter, as it stands near the stove.

"Overripe cream one day, partially ripe another, ripened at a high and low temperature, will not make the same butter even from the same milk; therefore, let each farmer have a place and utensil so that he can ripen the cream the same for each churning.

SELLING SKIM MILK.

The Ottawa (Ill.) Free Trader says that a $15,000,000 corporation headed by L. E. Ingalls of Joliet has organized for the purpose of making common flour from the skimmed milk, thrown away, practically, by the farmers in the neighborhood of the large creameries in Illinois. If there are any farmers in Illinois who are throwing away skim milk in these days of high-priced pork and beef, or who are not realizing as good as 25 to 30 cents a hundred for it, it is due to their consummate ignorance of the best points in their own business. We understand, however, that there are lots of such farmers in Illinois and all other States who will not read nor make themselves intelligent in any other way, on the value of skim milk. Such farmers are easy prey to big corporations. All they will have to do will be to offer them 10 cents a hundred for what is worth three times that amount, and they will get the skim milk. Why shouldn't they?

When farmers will not take pains nor spend 10 cents for knowledge enough to save themselves from $10 worth of waste, why should not big corporations be formed to farm such farmers? Not ten in one hundred of the patrons of Illinois creameries read dairy literature, or have ever taken pains to make themselves intelligent on the nature and value of the product they are dealing with and producing. It is just the same in the great dairy State of New York. How can such men be expected to deal intelligently and in the most profitable manner with the business they have in hand? We are surprised that hundreds of such corporations have not been formed and grown rich out of those farmers years ago.

GERMS IN TEATS.

Although milk is sterile when it is first secreted, it is difficult to obtain sterile milk from the udder, because some germs succeed in finding their way to it even before it is drawn. A few drops of milk are always left in the teat after milking, and the end of the teat remains moist. Germs from the air and bedding quickly plant themselves in this thin layer of milk and rapidly multiply. Those kinds which do not require air find the interior of the teat and milk duct a favorable abode. The milk in the vicinity becomes contaminated by the increase and when not discarded affects the whole milking. The lactic acid of some milk bacteria spread through the whole mess, having begun before the milk was drawn.

DAIRY DON'TS.

Don't feed milk to young calves that is not clean and warm.

Don't think skim milk from a healthy cow, properly fed, will scour your calves.

Don't think you deserve much credit for getting angry when feeding a baby calf.

Don't think you, at its age, would do much better.

Don't think "Do unto others as you wish to be done by" means only folks.

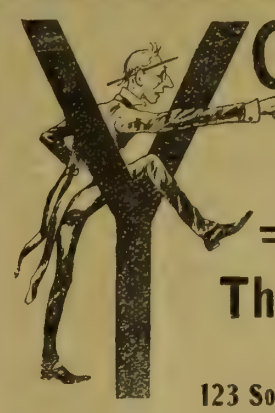
Don't think "He will have judgment without mercy to him who showeth no mercy" has not a broad meaning.

Don't think the Lord doesn't notice how you treat your domestic animals.

Don't think what you believe is more important than what you do.

Don't think there is no "blood in a turnip."

Don't think because roots are nearly all water milk has much less.



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Being large buyers of Butter Wrap Parchment and having unexcelled press facilities, we are enabled to turn out a superior quality of butter wrap at an exceptionally low price. Samples and estimates cheerfully furnished on application.

MINNEWAWA STOCK FARM

Offers For Sale TWO HOLSTEIN BULLS Now in Use in Herd

LEGAL TENDER BLANCO, 26943
Mostly black. Dropped January 1, 1900

SIRE — Nero Blanco, 25002. His eldest daughter, Eva Blanco, 2 years old, has an official record of 14 lbs.. 5 oz. in 7 days.

DAM—Legal Tender, 42315. Private record of 379 lbs. of butter in a year.

SIMONDA DE KOL
Registry applied for. Dropped Nov. 12, 1900. White with black tips to ears and small spots.

SIRE—Ignaro De Kol, 23533. Sire, Johanna 5th, Paul De Kol. Dam, Cascade Princess, official record 17 lbs. in 7 days.

DAM—Mamie Clifden Judith, 43191. Private record of 72 lbs. in 30 days. Average test, 4.2.

Mrs. M. D. E. Sherman - Fresno, Cal.

West Coast Stock Food

Raised on West Coast Stock Food

For all Diseases of Horses, Cattle and Hogs is guaranteed to give satisfaction if used as directed.

West Coast Lice Killer for Stock and for Poultry Houses.

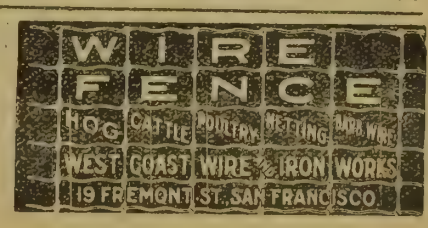
Killamite is the best powder for Setting Hens and Little Chicks

West Coast Poultry Tonic cures sick fowls. It makes hens lay, These goods are compounded especially for the needs of Stock and Poultry on this Coast. There is no other brand to equal these goods. Send for booklet "How to Make Your Live Stock Pay," and for guaranteed receipe for making hens lay.

These goods are put up only by the

WEST COAST STOCK FOOD COMPANY

PASADENA, CAL.



Improving Dairy Products.

Prof. W. J. Fraser of the dairy department of the Illinois agricultrural college, has recently prepared a bulletin on the subject, "Dairy Conditions and Suggestions for Their Improvement." As a result of six years' investigation Prof. Fraser says that the dairy condition of the state of Illinois in some particulars are ideal, while in others they are far below the standard. From a sanitary standpoint there is need of improvement in many of the dairy practices, not only in Illinois, but in all parts of the United States.

Prof. Fraser points out that dairy products are not consumed to the extent they would be if their quality was improved. Under existing conditions it is in many places almost if not quite impossible to obtain on the open market any real good butter or cheese. It is pointed out that even at good hotels when milk is ordered dirt is frequently found at the bottom of the vessel if allowed to stand. This is not appetizing, to say the least, and many persons who like milk now use but little on account of the careless manner in which it is produced and the fear that it may contain dirt if not disease germs.

The commercial value of dairy products is determined largely by their flavors and odors. They are usually judged by the smell, which is so extremely delicate that it takes an exceedingly small amount of a substance giving off a bad odor to make the product of low or inferior quality. No food is more susceptible to defects or more subject to contamination than dairy products, and yet the protection of the purity until they reach the consumer is nothing more nor less than cleanliness. This would seem to be a simple matter, yet it is greatly neglected, but when faithfully performed will more than repay the efforts made.

Many people when handling milk seem to forget that they are dealing with food products. There is a tendency for certain unfortunate practices to invade the dairy business. If filth is allowed to get into the milk or if it becomes tainted at any point of its production, no amount of care, either before or after, can make amends for the difficulty. A man may be careful and correct in all his dairy occupations but one, and yet this one may be the cause of his producing a low grade product. This one mistake not only injuries his product, but the dairy market as well. This being true, it is clear that the greatest care should be exercised in every step of production, manufacture, and delivery of dairy products to the consumer. Only those dairymen who exercise such care can hope to secure the trade of people, who desire a product of superior quality and are willing to pay an advanced price.

The real foundation of the whole dairy business lies in the milk product. The chief necessity then, in improving the dairy conditions is to give the producer such a knowledge of the right methods of handling and caring for milk that he will not only see the necessity for such methods, but may also know best how to accomplish the purpose.

TREAT YOUR ANIMALS KINDLY.

A horse with brains don't like to be talked to like a prize-fighter.

Keep a little salt where your animals can get it at pleasure. Don't throw it in the feed.

The same money's worth of mixed feed is more economical than to feed one kind alone.

Don't think because your horse cannot speak he knows nothing. He is usually brainy, and in many cases knows more than his driver.

The chief cause of viciousness in horses is harshness and cruelty. Ignorant, cruel and reckless drivers cause unsoundness, while disease results from damp, cold or foul stables, exposure and improper feeding.

Horse owners were seized with alarm over sixty years ago when steam was recognized as a means of transportation. Since that there has been the electric car, bicycle and horseless wagon scares. All these have come to stay and have the work to perform.

The horse, the grandest of all animals next to man, is also here to stay.

DEHORNING CALVES.

The practice of dehorning cattle is growing, and many claim it has proved a benefit, as not only are the polled animals gentler in temper, and less likely to be dangerous than those with horns, but dairy cows are found better milkers, also. The dehorning of older animals by such means as the saw or the clippers has, however, so much the appearance of cruelty, that many experiments have been made in order to discover a really humane method. One of these has been made at the New Jersey Experiment Station at New Brunswick. The results of these show that the simplest and most humane way of destroying the horns of animals is to prevent them from developing when the animals are young. This can be done by the use of caustic potash, which ean be bought of any druggist in the form of white sticks. The method of applying this is very simple. The hair is clipped away from the young horn, so that the potash may come in direct contact with the parts to be treated. The stick of potash is rolled up in a piece of paper, so as to leave one end open. This open end is slightly moistened and rubbed on the embryo horn for a few seconds, or until the skin begins to start, care being takem that the whole of the border, or matrix, is included in the treatment. Healing soon followed this treatment, and smooth polls resulted in every case. It was found that the best time to apply the treatment was when the calf was from three to ten days old, although the treatment was equally effectual when the calf was eighteen days old.

DOES THIS FIT YOUR COW?

If a boy should come from the heart of a city, says the Baltimore Sun, who had neither seen nor heard of a cow before, how would he describe it as it is seen at this time of the year on many of our Eastern farms? His observations would lead him to say that it was used as a sort of scavenger to keep things picked up about the fields in winter time, to pull the branches off the corn stalks and trim up and bore into the straw piles, and while not at work stands on the leeward side of the stawstacks or in the fence corner with its rudder to the wind. It has a hump similar to a dromedary, only more rounding. It has hair like most other animals, except that it stands up more, and on its flanks it has not hair at all, but scales like an alligator. It doesn't seem at all satisfied with life, but stamps its feet, shakes its head and acts mad.

REGULAR FEEDING.

If the stockman expects to have his stock do well he must feed with regularity. Not only must he feed at the same time each day but he must balance his rations so as to get the best results. Constant diet on one article, or more, of feed, will cause an animal to fall away and eventually to become weak and incapacitated for work. Dry feed constantly used will produce constipation, slow kidney action and a rough coating of hair whereas if alfalfa and some green feed is used, with a weekly bran mash containing a little salt, the horse or cow, or hog, will thrive and the feed given produce the best results.

GATHERED CREAM FROM FARM SEPARATORS AND THE PASTEURIZER.

It is quite evident that the coming evolution of creamery practice is irresistibly toward the separation of creanr on the farm by the use of the farm separator, and the gathering of the same by teams. The compelling cause of this change is the saving of labor and cost in the transportation from the farm to the creamery, and the very greatly increased feeding value of the skim milk. The real foundation of the creamery rests in so conducting the business that the farmer shall get out of it all the value there is in it for him. Certain creamerymen seem to think that they should take the first and largest profit and what is left may go to the farmers. But any creamery enterprise conducted on this basis is sure to be short lived, and the capital invested in it is soon put out of commission. It is for this reason that we believe that the farm separator has come to stay, and all future evolution will be in that direction. If this system is adopted, two things become necessary at once, if the butter to be made is of first-class quality.

1. Systematic effort must be put forth on the part of the creamery to educate the cream producer how to care for his cream in a manner that will result in making the best butter possible. Every creamery has within its power to push such a system of education. All that is necessary is a good understanding, on the part of the butter maker, of the farm and stable conditions of each of his patrons, and good tact, patience and untiring purpose. Before such qualities, the most stubborn ignorance will soon give away.

2. In every gathered cream creamery, the pasteurizer becomes an indispensable part of the machinery. This fact is almost universally recognized in Denmark, the most efficiently organized dairy country in the world.

Instead of blindly fighting the inevitable advent of the farm separator, as some American creamery people are doing it would be more sagacious on their part to clear out the difficulties that lie in the road, and do all that is demanded on their part to make it a success.

The two lines of procedure that we have indicated, will, we believe, end in widely increasing the number of farmers who will become creamery patrons and also greatly improve the butter product.—Hoard's Dairyman.

MILK UTENSILS.

Milk utensils for farm use should be made of metal and have all joints smoothly soldered. Never allow them to become rusty or rough inside.

Do not haul waste products back to the farm in the same cans used for delivering milk. When this is unavoidable, insist that the skim milk or whey tank be kept clean.

Cans used for the return of skim milk or whey should be emptied and cleaned as soon as they arrive at the farm.

Clean all dairy utensils by first thoroughly rinsing them in warm water; then clean inside and out with a brush and hot water in which a cleaning material is dissolved; then rinse and lastly sterilize by boiling water or steam. Use pure water only.

CREAMERY SUPPLIES

Cream Separators — Milk Cans
Combined Churns — Milk Bottles
Babcock Testers — Brushes
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Creamery and Dairy Supplies and Machinery of all Styles and Sizes

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REGISTERED JERSEY CATTLE
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FOR SALE
Twenty acres good walnut land. One Hundred and Fifty Dollars per Acre.
W. Jay Cole, Anaheim, Orange Co., Cal.

MARIGOLD'S ORANGE TORMENTOR
Bull No. 65,348. Has the blood of the Marigolds, St. Lamberts, Brown Bessie, Matildas and Oonan's Tormentor. For price and pedigree address John C. Keefe, Orange, Cal.

Sultane's Golden Fern, 65304
[IMPORTED]
SERVICE BULL — FEE REASONABLE
A. B WHITE, - 2547 W. 12th St, Los Angeles

Lemonita Herd
LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the Island has ever produced."

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
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C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
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Well cut feed sprinkled with bran is one source of economy in feeding, providing that the cutting machine can be run without too much expenditure of time. Cut feed will unquestionably go farther than uncut feed. There is little or no waste. To carry out this plan we must have the feeding stable conveniently arranged. The arrangement should be such that the work can be accomplished with the least time and effort. Dispatch has money in it. This is as true in farming as foot racing or railroading.

Feed what the cow will relish and in quantities sufficient for good nourishment and of the kind of material that will produce the best results and economy is assured.

LET THE FORETOP ALONE.

How often one sees the foretop of horses clipped off. Did the one who clipped this appendage ever stop to think of the cruelty he was inflicting on his horse or how it will injure the sale of the horse when he is put upon the market. When at the international show, a horse dealer remarked as a clipped horse was led into the ring: "Horses that are offered in the wholesale markets with foretops trimmed short, clipped and otherwise disfigured, are looked upon by buyers with disfavor, and usually sell at low prices. Foreign buyers will not purchase a horse with its foretop cut off, as they cannot handle such animals to advantage, and home dealers always discriminate against such offerings." When asked the reason for this, he said: "In the summer time when flies are numerous, horses whose foretops have been clipped often get sore eyes because they cannot keep the flies away from their heads and out of their eyes. If the foretop be permitted to grow, the hair will chase away the flies every time the horse shakes his head and you often see teamsters whose horses have been clipped, tie rags to the top of their bridle to take the place of the foretop." Thoughtless people often clip their horses' foretop, not realizing the cruelty they are inflicting upon their faithful friends. The checkrein and the clipped foretop should never be seen on a horse, and the time will soon come when they will not be.

MANAGEMENT AND FEEDING OF THE CALF.

The calf is such an important member of the herd as to merit every attention. On the treatment of the calf until maturity rests the foundation of successful stock raising. The care of the calf should properly begin at the mating of the parent stock, by careful feeding of the dam until the arrival of a healthy well nutured calf are the first steps in successful calf-raising.

The after treatment of the calf depends much on circumstances, and the purposes for which the matured animal will be used. Whether it is better to leave the calf with its mother, or remove at birth, is a matter which many differ in general practice. My experience is in favor of immediate removal, as not only does the cow milk better but the calf, once taught to drink from the pail or to suck the self-feeder, thrives steadily, avoiding that set-back which frequently takes place through fretting and weaning from the dam. If the farmer is selling milk and wishes the highest possible profit from the cows in milk yield, it becomes an important point with him to raise his calves on as little whole milk as possible. After the first week, during which a liberal allowance of whole milk should always be fed, skim milk may in part be substituted. Many use some form of meal as milk substitute made into porridge. But slops are not usually good for digestion and I do not favor them; preferring to feed dry meal as soon as possible. Some time since I used dry blood as a substitute for milk in raising calves with very satisfactory results. I think it quite equal to, if not better, than skim milk, and certainly very superior to meal slops.

The value of dried blood as a cure and prevention in scours is well established. No remedy that I have ever heard of equals it, and I have never known it to fail in checking scours when used in time. As a milk substitute it will no doubt be equally valuable, though so far as I know it has not hitherto been used in this way. I began to use a small quantity of dried blood when the calves were two weeks old, dissolving first in cold water, then adding warm water with which was mixed the calf's allowance of whole milk, gradually I reduced the allowance of whole milk, increasing the quantity of dissolved dried blood in proportion until at three to four weeks old a calf's allowance of whole milk did not exceed 2 or 3 pounds. Of course there was an allowance of dry grain. These calves grew quite as well as those on a full allowance of whole milk anl appeared in equally good condition throughout their after periods of growth on pasture. I should add that pure water was supplied regularly, and it is most important dried blood can be safely used in this way, I am not prepared to say, calves from the start. To what extent dried blood can be safely used in this way, I am not prepared to say, but so far my experience gives confidence in advising its use.

In feeding calves one cannot be too careful to have everything in perfect order. Punctuality in feeding and absolute cleanliness of utensils and quarters are of first importance. Surely unsanitary quarters and carelessness with the feeding pail are among the chief causes of disease. The liquid food such as milk or its substitute, should never be fed cold or sour, but always at the same temperature. Careful watch should be kept on the digestion and the first signs of derangement attended to, as if overlooked, the calf may soon reach a state past recovery. For housing calves, where possible, the best plan is to have single pens. In this way the injurious habit of suching each other's ears, etc., causing flatulency anl upsetting the digestion, is avoided, besides being more convenient for feeding. Patent feeders are probably better than the pail, as the calf gets the milk too quickly from the pail and does not appear so well satisfied as when sucking more slowly from the feeder. To raise stock successfully, it is of the utmost importance to give liberal treatment to the calves, keeping up the natural growth until maturity is reach. It is doubtless practicable to bring back into good condition a fully-matured but lean animal; but let young, immature stock lapse into an unthrifty condition, and it will be found impossible successfully to start the growth again.—A. Williams, Country Gentleman.

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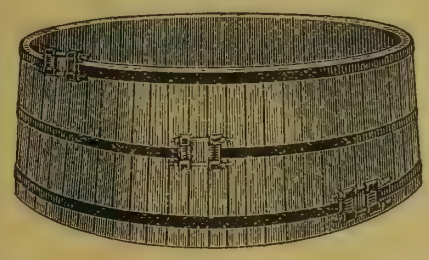

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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

MRS. A. BASLEY.

Mrs. A. Basley has been in the Cultivator a little over a year, but in that time she has made a name for herself as a writer of practical poultry information which has won for her many friends in this state. While she may be called a poultry fancier, yet her fancy is to utility breeds and in producing a money-making strain of poultry. In this she succeeded, as she has in writing. While she has recently disposed of her White Plume Poultry, we hope to be able to keep her for some articles during the coming year. She has a faculty of placing a great deal of information in a homely instructive way which makes her page one of the first sought for by many readers.

Christmas is here with its sweet, sad memories, and with all its peace, good will and joyful times.

"Grandma," said a cheerful little voice, "the rooster is saying 'I wish you a merry Chris-mas!' Now listen to him." And the little voice crowed it over in the rooster's tones till we all laughed and confessed it sounded very much like 'I wish you a merry Christmas.'

So today I begin my article with the words of the rooster, and wish all my readers a very merry Christmas and happy New Year.

* * *

A year seems a short time to look back, but a long time in looking forward. However, in the year that has passed the Cultivator has made many friends, its circulation has nearly doubled, and I see a great future, not only before the Cultivator, but before the whole State of California; and if California prospers this paper will do so.

When I was first invited to become a contributor for the poultry department of this paper, the largest broiler raiser in Pasadena said: "I am glad you will write for the paper, because you have studied the climatic conditions of this State and will give valuable information about raising chickens and producing eggs under climatic conditions directly at variance with those in the East."

Now, this is not only true of the poultry department, for all the other associate contributors are experts in their own departments, and they all deal with Pacific Coast conditions. People coming to California to live find a climate, soil, and many other conditions entirely different from those to which they have been accustomed back East, and unless they have someone to instruct them what to do, what trees, shrubs, vegetables, plants, vines, etc., to plant and how to care for them, how to fight the various pests, how to care for cows, horses, swine, fowls, in this climate they will have to learn by costly experience. The California Cultivator, costing only a dollar a year, will give them all the knowledge they want; in fact, as I have said to many newcomers to this climate, it is an absolute necessity for you to take the California Cultivator.

However, I fear I am intruding on the editor's province, so I will retire into my eggshell again and only speak of poultry.

* * *

During the past year I have written on many subjects of the various breeds of fowls. I have kept 13 varieties: of ducks I have kept 6 varieties, of turkeys 4, of guineas 2. I have written of the various branches of the poultry business, and in everything I have given very simply my own experiences, some of which have cost me much. My aim has been to help especially my sisters in the poultry yard. On account of the health of my daughter and her baby, I have sold off my poultry, only keeping the one cheerful rooster that is wishing me a merry Christmas and his dozen young wives. This will give me more time with my pencil, and I shall gladly continue to answer questions through the Cultivator. Also, as we have a very large number of new subscribers, I will be glad to rewrite some of my articles on bringing up young chicks, ducklings, turkeys, etc., and my plan of mating for eggs, feeding for eggs, etc.

I have made such a great success of the poultry business that I feel sorry to give it up, but shall be more than glad if I can help others to succeed.

* * *

TURKEYS.

The turkey should be, of all others, the topic of thought with poultry raisers and breeders at this season of the year. With turkeys retailing at from 28c to 30c a pound, none but the rich deserve the fare at Christmas time. "Grandma, the big white gobbler doesn't say 'Wish you a merry Christmas,' so will you kill him for Christmas dinner?" "Well, Harold, the white gobbler weighs over 20 pounds; how much would that come to at 30 cents a pound?" "Why, that would be 600 cents, Grandma; you might call it six dollars. My! but that would cost a lot!" So, after a little consultation a white hen turkey was decided upon.

* * *

A neighbor of mine for many years has raised over a hundred turkeys for Thanksgiving and Christmas and has netted over $200 every year.

Turkey raising here is not difficult if you only know how; they require but little more care than chickens and are such dear, tame, inquisitive little things, it is a real pleasure to handle them. Later on I will give full directions for mating, breeding and raising turkeys in California and guarantee anyone following my directions will have absolute success.

I met a man driving on the road last week with a wagon load of nice turkeys averaging 15 pounds each. I asked him the price, and learned that he was getting from 28c to 30c a pound. He said he had 20 left. He also remarked that his neighbors had not been able to raise any, because they did not know how. They only had the old ones left. It is all in the knowing how to do anything, and then doing it. And with this I wish you all a very merry Christmas.

FEEDING.

The proper way to feed breeding stock is to be very careful and not over-fatten them. The principal food from the time of selection up until the hen commences to lay should be oats. During the very cold weather feed a little ground corn at night. Alfalfa is very good. A head of cabbage is greatly relished by them and should be given often during the cold months. Ground charcoal is necessary for turkeys, the coarser the better. Oyster shells supply lime, otherwise the shell of the egg will be very porous, and many of the germs will die on this account.

LAYING.

The turkeys begin laying quite early in spring often before danger from freezing is over. If you wish them to lay near by, supply nests for them. A nest thirty-six inches square on ground free from danger of flooding during rain, and located in some quiet place is a great inducement. A small pen will serve the purpose as well. Remove the eggs every evening and date them, then place each with little end down in bran, and the receptacle in a cellar or any other cool place, and for two or three days afterward turn every day. It would be safe to keep them ten or twelve days but no longer. Replace each egg with one of glass, and carefully cover with leaves as the hen does, otherwise when she comes back to lay, as a rule she will desert the nest. A hen will lay twenty-five to forty eggs during the season.

POULTRY NOTES.

water is good far scaly legs.

Confinement and inertness generate vicious habits and they are feather picking and egg eating.

The hen ceases to lay when improperly fed or when in a diseased condition.

During the winter one of the best foods that can be given the hens is finely cut, scalded clover hay.

Most grains are deficient in lime and mineral matter, but bran is rich in nitrogen, carbon and mineral matter.

If the fowls have been diseased, change the food every day or two and change the grit.

Scattered seed from hay, millet, hungarian, sun fiflower and even weeds are excellent as a variety.

It is a good plan to have two sets of roosting poles for the hens, changing them every week.

The first egg laid by a hen is the most expensive and each additional egg assists in lessening the cost of the whole.

100 S. C. White Leghorn Pullets, the pick from 300 beauties mated to two-year-old roosters that cannot be beat. Eggs $1.50 per 15; $5.00 per hundred. M. L. CURTIS, Los Soso Poultry Farm, San Luis Obispo, Cal.

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WET WEATHER POULTRY.

It would seem that ducklings would thrive in wet weather, but they don't. Even the water fowls thrive better if there is some sunshine. It is a great deal more so with chicks; health and growth do not go partners with damp, sour coops and continuous cloudy, cool weather.

When we come to think of it, sunshine is necessary to all life, whether animal or vegetable, and without it for a considerable length of time it shows for itself. There is something about sunshine that is very different from all other kinds of heat.

I have noticed this in poultry raising for a long time, live stock men notice it, in the green house, perhaps, they more fully appreciate it.

While camping out in the mountains this past summer I got a new and very practical lesson on sunshine. The nights and mornings were cool, the camp stove was sufficient to keep us warm, but we soon discovered that there was a balm in sunshine; it was so much more comfortable and bracing to get out in the sun.

While enjoying a sun bath one morning, it occurred to me that the new crop of chicks, back east, must be having a hard time. Cold, cloudy weather, rain after rain, damp, sour, coops, lice, mites, chiggers, etc. While it is impossible to stop the rain or make sunshine, it is not impossible to clean out the coops, to hoist them up out of the mud and kill off the parasites, put in some dry chaff or something of that nature and give the chicks some chance for their existence.

We can go still further and thin out the bunches of chicks, piled up here and there in corners. Everything goes to show that the trouble or bad luck attending raising chicks is mostly with ourselves. More care would mean greater success.

At the San Francisco poultry show there were 50 ducks, representing nine varieties. At the Los Angeles poultry show there were 25 ducks, among them Pekins, Aylesburys, Rouens, Cayugas, Indian Runners, Muscovies, Grey Calls and Blue Swedish ducks. The fine appearance of these ducks brought out many expressions of kindly appreciation. James Hague of Oakland had an especially inviting collection of ducks.

It is not necessary to keep cocks unless the eggs are intended for hatching. The hens will lay just as well, perhaps better.

To increase egg production put a few ears of corn in an oven and reduce to charcoal and feed two or three times a week.

Small eggs from immature pullets, misshapen eggs, extra large eggs and eggs covered with filth should never go in the incubator to hatch.

The capon has ever been esteemed one of the greatest delicacies, preserving the flavor and tenderness of chickens with the juicy maturity of age.

Fowls do not run together in large numbers, it is not natural. They will always divide into flocks of smaller size if given the opportunity and select different feeding grounds. Fifty is as large a number as should be kept in one house together.

It is not a good plan to raise several varieties of fowls unless so situated that they can be kept from mixing. Pure breeds if allowed to run together and mix without control, tend to reproduce a scrub from which they were formerly evolved.

There is no difference in any respect between chicks hatched under hens and those hatched in incubators. If there would be a difference, it would be due to the kind of food and management. All the incubator does is to get the chick out of the shell, a hen will do the same thing for a duckling, yet the duckling does not become a chicken.

In sending dressed poultry to market it is very important to have it thoroughly cooled before picking and yet care should be taken not to allow it to freeze. A good plan after dressing is to hang up in a cool place and yet warm enough to prevent freezing, until thoroughly cold, and then pick. It is very important if the best prices are realized that the fowls when placed on market present a neat, plump appearance.

THE COLLEGE AND THE FARMER

The farmer has not always accepted the idea of agricultural education with grace. Economical methods were not necessary to a certain sort of success a few years ago. Industry was without system, specalization was unknown. But all this has greatly changed during the last decade and the change will be complete in less than another decade. Professor L. H. Bailey says on this point:

"Nothing is more evident in the new place that agriculture is taking in our civilization than the fact that the colleges and experiment stations are rapidly becoming its leaders; a remarkable company of competent men is adding knowledge, resourcefulness and dignity to it. The teacher of agriculture is no longer a book farmer. The old academic way of teaching agriculture is passing forever."

Some one once asked Reynolds, the celebrated artist, how to mix paints to produce his beautiful colors. He answered: "Mix them with brains.' And that is the way to make farming a success. The most remarkable forward movement today in the educational world is the one which has for its aim and end the training of men and women for the American farm. Agriculture is now recognized as a science, and the art of it has been transformed and uplifted through invention, until the drudgery commonly associated with farm life has been forved out of it.

The importance of this forward movement will not be overestimated, when we consider that fully one-half of our population is directly relateu to agriculture in some of its branches, while the entire population is dependent upon its success in producing the world's provender."

The California Promotion Committee is agitating the proposition to build in San Francisco a monster coliseum that will seat 20,000 people, where live stock exhibitors, horse shows, etc., may be held.

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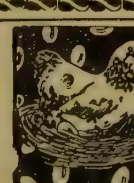

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The Midland Feed will cost you very little more than any good grain you now feed, and no more than you now expend for all the extras you must use in addition to your grain, and the results will be so far in excess of any previous experience you have had that you will readily acknowledge its value. What the poultry man must be able to count on to a certainty is RESULTS.

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

ERNEST BRAUNTON.

Ernest Braunton bears no resemblance to Oscar Wilde, yet he is the apostle of beauty, and through his articles in the Cultivator, we believe that many a home-place in California today is more attractive and home-like. Mr. Braunton is an authority on flowers and their culture and understands landscape gardening so as to give suggestions which will aid in the placing of a beautiful plant where it may not have the impression of ugliness.

Mr. Braunton was formerly editor of the California Floriculturist, was a contributor to Bailey's Cyclopedia of American Horticulture, and has contributed articels in Country Life in America and other exclusive publications.

MAKE YOUR WANTS KNOWN.

Now that the Cultivator's subscription list has passed the ten thousand mark, this department should be overrun with inquiries. The Ladies' Home Journal, by careful inquiry, found that at least seven persons read every number they issued, but, taking five as a fair basis, every issue of this paper is read by fifty thousand persons, and the list is growing rapidly. Is it not fair to presume that one in every ten is interested in gardening? We make an earnest endeavor to answer fully and faithfully every question sent; let us hear from those five thousand "gardeners" during 1904.

* * *

COFFEE PLANTS.

Editor Cultivator: Can coffee be successfully grown in California; if so please give cultural directions, soil, etc. —A. H. L., Riverside.

Coffee as a commercial crop will never be a success in this state, as the temperature falls too low in winter. In sheltered spots, however, the plants may be planted and grown merely as curiosities, with some success. The writer has had plants of both Arabian and Liberian coffee successfully pass through several winters in Los Angeles.

* * *

STORING DAHLIA AND OTHER ROOTS.

Roots of Cannas, Colocasia (Elephant Ears), Dahlias, etc., should be taken up and stored, in case they are needed elsewhere next year or have not been moved during the past three years. Keep them out of the ground until April. Clumps of Cypress and Papyrus which need moving or dividing should be lifted with considerable around them, buried in damp sand or soil and gradually dried off and kept for April planting. This enforced rest will make them respond grandly. When putting away Dahlia roots, label them for height and color, if possible, so that another year you may plant more intelligently.

* * *

MAKE ROSE CUTTINGS NOW.

Now is the very best time to put in rose cuttings. Choose the north side of a building or hedge where protected from winds. Get sand, if possible, if not, any soil not containing too much decaying vegetable matter will do. Take cuttings from long, vigorous last year's dormant growth not smaller than a lead pencil. Avoid using those long, smooth bright-green growths which are not yet hard wood, but full of soft pith. Cut up this wood four to six inches long, making a smooth cut with a very sharp knife, a quarter of an inch below an eye or bud. Make a hole in sand or soil for cutting with a stick larger than cutting, insert cuttings, press soil around them firmly and water well. Do not water oftener than is needed, yet never allow soil to get dry. Do not keep too light, as light produces tops—we want roots—they will grow in the dark.

* * *

FLORAL CALENDAR FOR JANUARY.

Those who have bulbs of Anemones, Hyacinths, Ixias, Lilies, Narcissus, Ranunculus, Sparaxis and Tulips yet unplanted, should put them in the ground at once. If a handful of sharp sand is placed in the holes for each bulb to set on, it will ensure success in many cases where failure would otherwise result. Soak bulbs of anemones and ranunculus a few hours before planting.

For early blooming, seeds of the following may be planted, especially during the latter part of month: Arctolis (a grand annual and too little known); asters, Dianthus (pinks), phlox, salvias, stocks, sweet peas. The latter should be sown once a month if you have room for a precession of these popular flowers.

* * *

VEGETABLE CALENDAR FOR JANUARY.

The planting of vegetables will be on the increase now for several months, the lowest ebb being reached during the present month, while the period of greatest activity is during March and April. If we have heavy rains, followed by several severe frosts during the first part of January, it will be safe to plant many things during the period from 15th to 30th that are not in the following list:

Sow seeds of: Beets, beans, broad and bush varieties, not pole beans; cabbage, early; carrot, cauliflower (our favorite flower); lettuce, parsnip, peas, radish, spinach, tomato.

Plant sets, roots, or plants of: Asparagus, horseradish, onions, rhubarb.

If warm the latter part of the month in sheltered or favored localities early potatoes may be planted.

AFTER THE HARVEST.

The Honey Should Be Removed as Soon as Possible.

A. H. Duff: It is best to remove all good, marketable honey immediately after the honey harvest, for it will then retain its beautiful whiteness, which, if left very long on the hive, it will lose. Comb honey, in particular, will readily lose its good-looking qualities, but, of course, it does not matter with the extracted, except that it is best to extract at once all that is to be taken this way. It is poor policy to extract too close, but far better to lay away a number of frames of sealed honey for the use of the bees. These may be left on the hives in the upper stories until during autumn, when needed. We do not think there is anything to be gained by taking away too much honey from the hives, and feeding instead for winter supply. It may do well enough if we feed liberally enough, but we are apt to do this not just as we should.

All completed sections should be removed from the supers, and those not completed may be crated together and placed back on the hives. There may be some light honey flows during autumn which will enable the bees to complete a number of these sections, and at any rate they will keep as well or better on the hives until the beginning of winter, or some time previous to this, when the bees are arranged for winter quarters.

Bring up the late swarms or nucleus that is intended to make full colonies by giving them frames of brood from the strongest colonies, and also honey if they need it. Swarms without a hive full of combs at this time are but little account, even if on foundation comb, for such colonies will not be in shape to winter unless there is a good fall flow of honey, or the bees well fed. Do not let any colony remain long without a queen, and at this time we will doubtless find colonies without queens, especially if there has been much swarming, for very frequently colonies left with virgin queens often lose them.

UNKIND.

Miss Komin—"What did your brother Georgie give you for Christmas, Lizzie?"

Little Lizzie—"Mamma says she is afraid he gave me the mumps."—Woman's Home Companion.

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and other Shade and Ornamental Trees.
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Choice Flower, Garden and Tree Seeds.
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Preventing Frost

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NO SMUT
SIMPLE AND
EFFECTIVE

The Walnut Industry in Mountain View.....

BY P. F. COGSWELL, EL MONTE

Commencing where the Lexington wash diverges from the San Gabriel river, about three miles northeast of El Monte, and extending southward between the streams, lies a tract of land about four miles long and one and a half miles wide. It consists for the most part of what is known as "Fresno sandy loam." The soil is from 20 to 40 feet in depth, underlaid with water-bearing gravel of unknown depth, and an inexhaustible supply of water. This is what is known as the Mountain View walnut district. Up to 1888 this land was devoted to barley, with some corn, potatoes and alfalfa in wet years.

About one hundred acres were planted to walnuts in 1888 by the late B. F. Maxson, who may be called the father of the walnut industry at El Monte, and H. Ferris and the writer. Since then the acreage has increased year by year, until now there are about two thousand acres in walnuts, about one-third of which are in good bearing. During the first few years corn, pumpkins, potatoes and other crops were raised between the trees. Then came the dry years following 1894, and two pumping plants were put in, one by Mr. J. S. Killian, and the other by the writer. These were so successful that others soon followed, until now there are twenty-five wells, supplying from one hundred to one hundred and fifty inches of water each, sufficient, if it were properly distribued, to irrigate three times the amount of land there is in the district.

* * *

About six years ago the blight first appeared in the orchards here. It did considerable damage, a good many nuts being black on the ends and the kernels worthless. Since then there has been very little upon the nuts, but there has been some upon the trees, especially young orchards and nursery stock, showing as a black spot upon the bark of the new growth. This year a good many nuts dropped off during the summer. Some had a black spot upon the end, but many had no visible defect whatever. In this way we lost probably five per cent of the crop that had set upon the trees.

By far the greatest loss this year was caused by a heavy and continuous rain that came just after the catkins appeared and before many of the young nuts were sufficiently developed to be fertilized by the pollen from the catkins. The third day after the rain the ground beneath the trees was strewn with the blackened catkins. Very few were left to fertilize the nuts that developed later and which, consequently, afterwards dropped off. This loss has been estimated at about fifty per cent of the crop. Notwithstanding these unfavorable conditions the output this year was about 25 cars, which brought over $65,000.

With a normal yield next year this district will produce about 60 car loads of ten tons each.

All of the walnuts in the district except about two cars are marketed through the medium of the Mountain View Walnut Growers' Association, which was incorporated in 1896, and which has controlled practically all of the crop in the district.

* * *

With the exception of the possibility of the blight becoming more serious in the future than it has been in the past, the industry in this locality seems to have as few drawbacks as any branch of horticulture and less than most. While the blight has hovered like a bird of ill-omen over many of the walnut growing sections of Southern California, it has seldom affected this section.

* * *

Modern science and modern inventive genius have circumvented Jack Frost in his stealthy attacks upon the orange groves; they have cleaned out the cottony cushion scale, which once threatened to destroy the orange industry of the state, and have kept in check the red and purple scale, and if the walnut blight ever becomes a serious menace to our growers some remedy will be found for it, if nature herself does not provide one.

* * *

If any one desires confirmation of the optimistic views held by our people, he has only to take a drive through the valley with one of our real estate agents. He will speedily find that not many of our orchards can be purchased for the amount of this year's taxes upon them. We have set up our Lares and Penates under our spreading trees and thus far no one has been found sacriligious enough to remove their household gods from beneath their grateful shade.

FRIENDLY INSECTS.

(Continued from first page)

friendly insects in previous papers and the only excuse I now give for taking up your valuable time was because of a remark, or question, asked by one of our best entomologists some time ago at a meeting of fruit growers and farmers. The question was in substance, "Do you know of any benefit derived from beneficial insects outside of the Vedalia cardinalis?" Evidently the fruit growers present at that meeting had forgotten some of their past experiences with fruit tree pests, for no response was made. State Horticultural Commissioner Cooper is still making determined efforts to introduce other friendly insects that will be of incalculable value to the fruit growers of California.

In 1900, according to the census, the value of farm products in the United States was $4,739,118. This year their value is estimated at $5,000,000,000. The farmers of this country employ over 9,000,000 persons and pay out in wages over $300,000,000.

On the 5th instant, a deal was consummated whereby the Western Pacific Company became the owner of the San Franciso Terminal and Ferry Company. This is understood to be in the interest of the Gould transcontinental railway reaching for the Pacific Coast.

The co-operative idea is gaining ground among the churches. Rev. H. A. Luckenbask, of Oakland, proposes that the Congregationalists, Baptists, Methodists and United Brethren denominations, shall form themselves into a co-operative union, and his suggestion, at a late meeting of the Ministers' Association, had several supporters.

Small Potatoes

result from a lack of

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in the soil. Potash produces size and quality.

We have valuable books which explain more fully the fertilizing value of Potash. We will send them free to any farmer who writes for them.

GERMAN KALI WORKS,
93 Nassau St., New York.

Meyer Wilson & Co., San Francisco, Cal., are so e agents for the Pacifi Coast.

At a late term of court in Merced several doctors were expert witnesses. They got together and put in a claim of $50 per day each. The supervisors refuse to allow the claim, as farmers and bookkeepers, and machinists and common people, are allowed for like testimony but $1.50 or $2 per day. The supervisors ask why, then, should doctors receive $50?

Arizona Statehood.—There is no present prospect that the bill before Congress admitting Arizona to statehood will be passed this session. Arizona people have cooled considerably in their enthusiasm to become a part of the Union, presumably feeling that they are doing well enough as matters now stand. One serious objection is the coupling of New Mexico with Arizona, in the bill.

PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased so send you one.

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CHRISTMAS BELLS.

Dear are the sounds of the Christmas chimes
In the land of the ivied towers,
And they welcome the dearest of festival times
In this Western world of ours.
Bright on the holly and mistletoe bough
The English firelight falls,
And bright are the wreathed evergreens now
That gladden our own home walls.
And hark! the first sweet note that tells
The welcome of the Christmas bells.

They are ringing tonight through the Norway firs,
And across the Swedish fells,
And the Cuban palm-tree dreamily stirs
To the sound of those Christmas bells!
They ring where the Indian Ganges rolls
Its flood through the rice-fields wide:
They swell the far hymns of the Laps and Poles
To the praise of the Crucified.
Sweeter than tones of the ocean's shells
Mingle the chimes of the Christmas bells.

The years come not back that have circled away
With the past of the Eastern land,
When He plucked the corn on the Sabbath day,
And healed the withered hand;
But the bells shall join in a joyous chime
For the One who walked the sea,
And ring again for the better time
Of the Christ that is to be:
Then ring! for the earth's best promise dwells,
In ye, O joyous prophet bells!

—Unidentified.

KITTIE AND FRANK'S CHRISTMAS AT SEA.

Kittie and Frank had always been used to a Christmas with a Christmas tree and stockings "hung by the chimney with care," and cold weather, with perhaps snow, and a chance for a sled-ride. But the year they were nine and five years old, they had the most unusual kind of Christmas. They were on a big sailing vessel, miles and miles away from any land; there was no possibility of getting a tree. Santa Claus and his deer would surely have drowned if they had tried to reach them, and, besides, there was really no chimney fit for him to come down. There were not even any stores where there would be a chance to help Santa Claus hunt up his supplies. And the weather was hot,—oh, so hot! Kittie and Frank had not dared to go out in the sunshine for several days.

But when Christmas Eve came, they hung their stockings by their berths (Kittie's berth was right over Frank's), and they whispered a good while, wondering how anything could be put in them, and they dropped asleep more than half afraid they would find them still empty in the morning.

While they sleep, we will take a look at the other people on the ship. There were not very many, only the children's father and one other passenger, a young man, besides the kind old captain, the mates, sailors, and the cook. But there were a number of animals. The Captain had a pink-and-gray parrot, which came from away over in China, where some one who spoke "pigeon English" had taught it to say "Polly wants chow-chow." Then there were two monkeys, some white cockatoos, some chickens and ducks, and three big black pigs. But the best of all was a tiny deer, which came from Java. It was full grown, but hardly any larger than a fox-terrier. You can image how cunning it was, with its tiny little hoofs that pattered about the deck.

The sun had hardly begun to send his first messengers up from the edge of the water when Kittie and Frank opened their eyes, and began feeling for their stockings; and how they shouted when they found them full,—yes, full to overflowing—and Kittie's had a package tied on the outside of the toe.

Kittie climbed into Frank's berth, and they sat tailor-fashion as they opened their treasures. Each took out a package neatly tied, one marked "Kittie, from the chickens," and one "Frank, from the monkeys," and each with the words "Wishing you a "Merry Christmas."

Quickly they untied the strings, not saying a word in their eagerness, and found, when the first paper came off, there was another inside, and, when, it came off, another inside of it, and still another, and another, until their faces began to grow solemn with the dreadful thought that maybe there was nothing but paper, after all. But no. Frank gave a squeal of delight. The monkeys had sent him what they loved best,—a banana, and , in another minute, Kittie found some rice from the chickens; and the monkeys gave Kittie a big lump of brown sugar, and there were crackers from Poll Parrot, and corn from the pigs, and sweet potatoes from the little deer, and seed from the cockatoos, and a tiny bottle of fresh water from the ducks. Each had given of his own best store. Then there were some bright pieces of money from some of the grown people, and the bundle on the outside of Kittie's stockings contained a little book of Longfellow's poems, on the fly-leaf of which was written under the names: Christmas, 18—Ship "Etta Loring." Therm. 82degs. Lat. 5 degs. 35 min So.; Lon. 24 degs. 30 min. W.

So, if you will look on your maps, you can find exactly where all this story happened.

About eleven o'clock in the morning, the cook sent for the children, and said that early that day, almost before light,

Santa Claus Was Good to Us.

he had heard a strange little voice calling his name, and on following the sound, and looking over the rail into the ocean, he saw a tiny gray-haired man, who called for a rope to be thrown to him. This the cook did, and pulled the little fellow on deck, where he stood dripping and shivering so that his teeth chattered, and he begged to be allowed to get in the oven to dry and warm himself. The cook said "Yes," so in he crawled and shut the door, and the cook went about his work. An hour or so later, the cook suddenly remembered the little man, and rushed to the oven fearing to find him burned to a crisp, but he had gone. In his place, he had left a nice round cake, with a straight line of icing down the middle, and Kittie's name on one side and Frank's on the other.

When the children had heard all the story and admired the cake, the cook cut it exactly by the straight line, and each took a half and began to eat. Pretty soon Frank's teeth came to something so hard that he could not bite it, and he said, "Mine has a bone in it." But, when he looked, he found a bright ten-cent piece, and soon Kittie found one in hers.

When they had finished eating, they hugged the cook,—real bear-hugs,—and thanked him, although he insisted that he had nothing to do with the cake, and the wee man of the ocean had left it.

Now, you can believe the cook's story or not, as you like, but the rest is a true account of a Christmas far out on the big rolling sea.—Eleanor Scott in the S. S. Times.

A "LOST" CHRISTMAS GIFT.

At the approach of the first Christmas after the wedding, a certain bride, desirous of giving her best beloved something made by her own affectionate but inexperienced hands, manufactured a truly wonderful nightshirt of more than ordinary gorgeousouting flannel, trimmed with lace-edged ruffles, and was further embellished with rows of elaborate feather-stitching.

The surprised husband expressed a proper amount of gratitude, and said —with truth—that he had never beheld a garment to compare with it; but when asked later why he did not wear it, he replied that it was

"Far too good
For human nature's daily food."

and that he was saving it for some occasion that really demanded a nightshirt of more than ordinary gorgeousness. It was just the thing, he averred, to wear if one happened to be convalescing from a broken limb or a long attack of fever.

But one day the husband telephoned that he was unexpectedly called out of town on business, and requested his wife to pack his valise and to have it at the station within the hour, which she did.

Feeling tired after a long day's ride, and having nothing better to occupy his time, the man went to his room at nine o'clock that night, intending to go at once to bed. When he unpacked his valise he discovered that the long-dreaded "special occasion" had at last arrived, for there, folded neatly in the valise, was the pink-and-white nightshirt—ribbons, ruffles and all.

The traveler was slightly bald, he wore a sandy mustache, and when he had tied the broad pink ribbons in a bow under his decidedly masculine chin, he made a picture never to be forgotten. He was just about to climb into bed, hoping fervently that no sudden alarm of fire would render it necessary for him to appear unexpectedly in public, when he was startled by a loud rapping at his door.

Supposing his visitor to be the bearer of an unexpected telegram, he opened the door to find himself confronted by the last person he wanted to see—or to be seen by—in the circumstances. His caller, a man upon whom, for business reasons, he was desirous of making a good impression, had discovered his name on the hotel register.

"Good gracious!" exclaimed the astonished visitor, "are you on your way to a fancy-dress ball?""

"No," returned the embarrassed victim. "I'm merely getting ready to go to bed in the nightshirt that my wife made me for Christmas."

The young wife subsequently considered it strange that her husband was never afterward able to recall the name of the town in which he absentmindedly left that unexampled nightshirt under the hotel pillow.

"There were seven yards of lace on it, too,'" she would sometimes sigh, regretfully, "and four yards of ribbon; but never mind, dear, I'll make you another sometime."—Youth's Companion.

A CALIFORNIA CHRISTMAS CAROL.

From behind the upraised fingers of our mother range the storm tiptoed, thinking to surprise the valley. There came a soft wind from the sea and whispered a word in the ear of the storm. At the word its cold heart melted. The dread of all the east land was born again according to the Scripture of this coast. It ceased its war songs and sang love ditties. It cut the leashes of its snow shoes and tossed them back, descending the hills in its stocking feet. It laughed softly, and then tinkling trills rang down the canyon, like the ripple and splash of waterfalls.

From the chaparral there came reply. It emanated from the top of a scrub oak; first a warble of welcome, then a love song as from a joy-breaking heart, then a note of triumph as when a danger is past, and then a lullaby tender and low. Then the voice rose again as if summoning the wild rose, and the helitrope, and the cream cups and the daises and poppies to a mid-winter carnival on the uplands. Then came the rehearsal of a Christmas carol. From that single throat on the apex of the scrub oak came notes from all the birds of the foothills, the hermit thrush, the canyon wren, the wood pewee, the Audubon warbler, the song sparrow, the mountain blue bird, and a host of others, until the clear air was thrashed with melody heard nowhere else save from the chaparral-covered bed of a one-time mountain torrent.—Elizabeth Grinnell, in Sunset Magazine.

In some parts of Germany each family places a sheaf of grain on a high pole on Christmas day for the birds.

Bad grocer confesses his badness by selling bad lamp-chimneys.

MACBETH.

You need to know how to manage your lamps to have comfort with them at small cost.
Better read my Index; I send it free.
MACBETH, Pittsburgh.

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E. W GILLETT, G. P. A. T. C. PECK, A. G. P. A.

A CHRISTMAS CAROL.

They tell a lovely story, in lands beyond the sea,
How, when the King of Glory lay on His mother's knee,
Before the Prophet princes came, bringing gifts in hand,
The dumb beasts felt the miracle men could not understand!

The gentle, patient donkey, and the ox that trod the corn,
Knelt down beside the manger, and knew that Christ was born,
And so they say in Sweden, at twelve each Christmas night,
The dumb beasts kneel to worship, and see the Christmas light!

This fancy makes men kinder to creatures needing care;
They give them Christmas greeting and dainty Christmas fare;
The cat and dog sup gaily, and a sheaf of golden corn
Is raised above the roof-tree for the birds on Christmas morn.

—Mary Field Williams.

WHAT TO DO FOR THE BOY.

The boy is a problem and a promise. As we study the problem we are impressed with its greatness, but if we bring to our study heart and conscience, as well as intelligence, we cannot fail to help the boy in the fulfillment of the highest promise of his undeveloped life. This is well worth our while. The boy is a problem to most of us mainly because we have not studied his character, his motives, his point of view, his life. Once in a while a pastor, a Sunday-school worker or some other person engaged in religious, educational or even reformatory work has unusual success in reaching and holding the boys, in winning their confidence and inspiring them with a desire to make something of themselves. Such a man is at once accounted a genius. We run off with the idea that this man is one in a thousand and that his influence with boys is a rare gift. Public opinion to the contrary nothwithstanding, I believe this man is doing only what most of us could do if we would.

The mainspring of our failure in reaching the boy is, I am thoroughly persuaded, not lack of ability, but lack of interest. I should say that the first requisite for success in boys' work must be interest. Not perfunctory interest, born of the very necessity of our relations to the boy, but real interest—vital interest. As chaplain of the naval training station I get many letters concerning our boys, but few of them show real interest—helpful interest—in the boys. These letters are written by persons who are inspired by a burdensome sense of duty and who feel that they must unload their responsibility on someone else. Reading between the lines, I can see that they are washing their hands of the whole business. They are concerned that someone else should teach their sons, their scholars, their parishoners. One letter recently received informed me that the writer was pastor of a large and influential church, and that he was deeply interested in the welfare of a boy who had recently come to the station; would I look him up and take a similar deep and helpful interest? The name of the boy was omitted, but perhaps the omission of a minor detail like this does not prove lack of interest.

The second thing to do for the boy is to get his point of view, learn to see things from his standpoint. The effect of this will be to divest our intercourse with the boy of much of its embarrassment for us and the boy. It will certainly help him to understand what we are trying to do for him—a consideration of prime importance. It will give to our effort a directness of aim that will commend it to the respect of the boy. Our work will not be a mere performance. The man who in his work for boys has an ambition to shine intellectually rarely does anything for their welfare, and mainly because he has failed to meet them on the level of thought and speech with which they are familiar. His stilted bookish speech is an impassable gulf. To To reach the comprehension of the boy simple, direct and earnest words are best; but in avoiding the stilted style one should not go to the other extreme, telling pointless "funny stories" or dropping into mere buffonery while laboring under the impression that he is "putting himself on the boy's level." Boys resent this attitude of painful condescension, as many a speaker has learned to his undoing.

And now the third thing we may do for the boy. Help him to a recognition of the importance of his present place in society. All too often the boy is simply tolerated. He is given to understand that he is allowed to exist for the present because later on he will be a man. His society is not cultivated, his boyish pranks are sternly rebuked, his awkwardness is ridiculed; by such means he is practically driven into the streets, and then we wonder why he seeks friends among the rude boys of the town. It is true that there is no very important work which the average boy can do, but it is altogether necessary to have him realize the relative importance of all that he does. If he once comes to regard his actions as unimportant and, therefore, valueless, a blow is struck at his self-respect from which he may never recover. The first step in the direction of a wild and reckless young manhood is all too often provoked by those who inspire a boy to put a low valuation upon his place in the social fabric. Many a man who occupies a weak and apologetic attitude toward society and whose life is nerveless and ineffecient can look back upon his boyhood and place his finger upon the very act which robbed his life of its ambition and even of its hope. The work a boy can do is not, in the nature of the case, a matter of great importance to the community, but it is, or should be, of great moment to the boy and the boy is of great importance to the community; therefore to see that he does his work well and to help him to have pleasure in it and to regard it as vital to his welfare is to render an important service to the boy and no less to society. His work may be, and in most cases should be, the ordinary work of the schoolroom, and to inspire him with a proper appreciation of the present and future value of this work should enlist the hearty co-operation of teacher and parent. I mention these truths, which should be axiomatic, because I believe they are persistently disregarded by many who are charged with the responsibilty of training boys.—Wiliam G. Cassard, Chaplain United States Naval Training Station.

RECIPES

Eat Little, but Have That Little Good

TURKEY FASHIONS.

Mary Foster Snyder, writing in Farm and Fireside, gives the following "new" way to prepare the turkey for Christmas dinner:

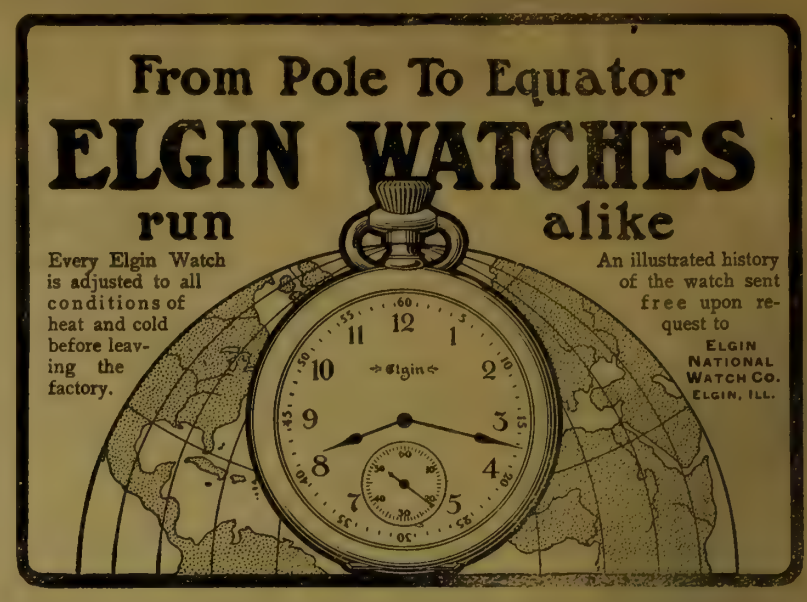
Turkey-Nests—Cook one tablespoonful of minced onion in two tablespoonfuls of butter for five minutes, then add two tablespoonfuls of flour and one cupful of gravy or stock. Simmer for a few minutes until quite thick and smooth, and season to taste. Strain, and add here two cupfuls of diced turkey. Set aside where it will keep hot for a few minutes, then turn out on a buttered platter. Make a few nest-like depressions in it, drop in each a few fine oysters, season to taste, sprinkle buttered crumbs over all, and place in a hot oven until the oysters begin to curl.

Scalloped Turkey—Fill a buttered baking-dish with alternate layers of chopped turkey, bread-crumbs and cream sauce, using one scant pint of sauce to each large cupful of turkey, and seasoning each layer to taste. Cover the top with buttered crumbs, and bake in a moderate oven until it is nicely browned.

Turkey Toast.—Chop cold turkey rather fine, and let it simmer for fifteen minutes in just enough stock or gravy to cover it; add a lump of butter, and salt, pepper and celery-salt to season. Have small slices of hot buttered toast, spread the turkey over it, and serve.

Deviled Turkey—Lay the wings and legs of a cold turkey on a broiler, and set over the fire until nicely browned. Make a sauce with one tablespoonful each of pepper-sauce, vinegar, French mustard and cranberry jelly, and season with salt, a dash of cayenne and some celery salt. Place the turkey on a heated dish, pour the sauce over it, and serve.

Fried Turkey.—Cut up a cold turkey into convenient pieces, dip each into beaten egg and bread-crumbs seasoned with salt, pepper and celery-salt, and fry in boiling oil or fat to a golden brown. Serve with mashed potato balls.



CHRISTMAS IN BETHLEHEM OF JUDEA.

Bethlehem, the home of Christmas, is that happy Utopia of which every American child dreams—it has more than one Christmas. In fact, it has three big ones, and strangely enough, the one falling on December 25th of our own calendar is not the greatest of the three. It is, at least, the first. Twelve days after the Latin has burned his Christmas incense in the sacred shine, says Woman's Home Companion, the Greek Church's patriarch, observing that it is Christmas time by his slow calendar, catches up the gloria, and bows in the Grotto of the Nativity for the devout in Greece, the Balkan States and all the Russias. After a period of another twelve days the great Armenian church of the East takes up the anthem of peace and good-will, and its patriarch visits the shrine.

All three of these big Christmas observances have some few things in common, at least one—the red fez-capped Mohammedan soldiery of the Sultan that stand with fixed bayonets as the background to brilliant pictures. In this most sacred of all Christian shrines, and especially on the natal day—according to the different calendars—of him who taught the brotherhood of man, the Latin, as he chants the song of good-will, must be protected from the fanatical Greek and Armenian; the Greek, as he sings his gloria, must be protected from fervid Armenian and Latin; and the Armenian, as he takes up the glad refrain, must be protected from Greek and Latin. All must be protected from Copt and other Christian churchmen, who, in their turn, must also be protected from the zealots of the three big churches. This duty falls on the followers of Mohammed. The presence of the armed Turkish soldiers has prevented riots at the Christmas and Easter festivals in recent years. The last great clash, thirty years ago, resulted from a discussion over some curtains. The result of that bloodshed in the holy of holies, and the constant threatening attitude of the different protectors of the holy shrines, was that the Sultan stationed a garrison of troops at Bethlehem, and connected the town with Jerusalem by a telegraph wire. Now, at every hour of the day and night, two Mohammedan soldiers with fixed bayonets stand sentry over the birthplace of the Nazarene.

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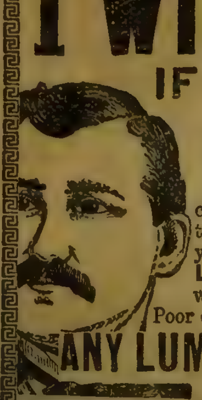

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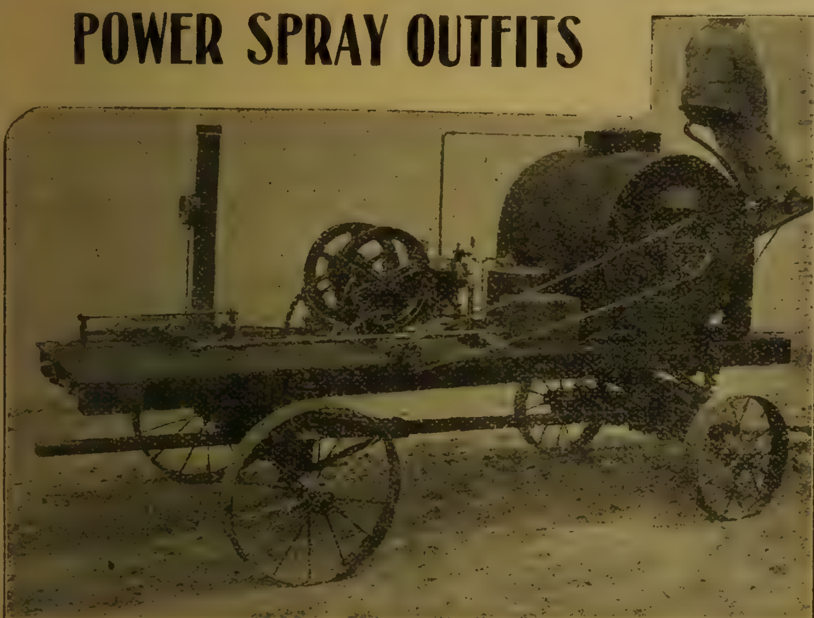

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FRESNO AGRICULTURAL WORKS

FRESNO, CALIFORNIA

Los Angeles Markets.

Los Angeles, Dec. 23, 1903.

As the Cultivator goes to press local creamery butter is on the upward tendency. Other brands have likewise advanced. It is hard to say what is the ruling price for eggs. Ranch are retailing as low as the wholesale price in some stores.

There is a good demand for chickens, better than for turkeys, though both sell well.

Rabbits are quickly taken at $1.50 to $2.00 per dozen.

Fish are plentiful, and so are lobsters.

Cranberries are going fast to the retail trade, wholesale business in them being less than last week.

Butter.		
B. of T. Creamery, 2lb roll		70
So. California, dairy do	.60	62½
Cooking	.24	25
Cold Storage	.50	55
Cheese.		
California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	16	17
Swiss	.13	
Imported		.28
Eggs.		
Fresh Ranch	.32	33
Fresh Eastern	.25	30
Store, case count	.30	.33
Potatoes.		
River, per cwt		1.20
Oregon, do		1.35
Local, do	1.00	1.25
Sweet Potatoes	1.75	2.00
Beans and Dried Peas.		
Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00
NUTS.		
Almonds, paper shell		14
Almonds, soft shell	10	12
Walnuts, soft shell	14	14½
Walnuts, hard shells	13½	14
Peanuts, eastern	6	7
Peanuts, California	5	6
Vegetables; Mixed.		
Onions, yellow, per cwt.	1.75	2.00
Beets, per 100 lbs		.90
Cabbage, per 100 lbs		1.50
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chiles, string		.75
Cauliflower	40	.50
Celery, per doz.	40	.50
Green Peas		.08
String Beans		.03
Lettuce, per sack	.25	
Tomatoes, 30 lb box	.50	75
Fruits; Fresh.		
Strawberries, box, fancy	.10	.15
Pears, Winter Nellis 40lb box		1.75
Limes, per 100	.90	1.25
Navel Oranges, per box	1.00	2.50
Northern Apples, 40 lbs	75	1.50
Four tier Belleflower		1.60
Four half-tier Belleflower		1.00
Guavas	.04	.05
Fruits; Dried.		
Apricots	.05	.08
Pears	.07	.08
Poultry.		
Spring Chickens, per lb	.17	.20
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb.	.20	.22
Turkeys, cold storage	.22	.23
Live Stock.		
Hogs, per cwt.	6.50	7.00
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00
Hay and Grain.		
Wheat Hay		13.50
Barley Hay		14.00
Alfalfa		13.50
Corn	1.15	1.25
Barley		1.07½
Wheat	1.35	1.45
Oats	1.25	1.35
MILL STUFF.		
Quotations f. o. b. cars L. A., are:		
Rolled Barley		1.20
Bran		1.20
Feed Corn Meal		1.40
Middlings		1.45
Cracked Corn	1.35	1.45
Oil Cake Meal	1.75	1.80
Chicken Wheat	1.50	1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, December 23, 1903.

Butter buyers operated with more freedom yesterday than at the close of last week, and, as supplies of the better grades were not over abundant, the market assumed a steady tone at the appearing prices.

BUTTER—Per lb:

Creamery, extras	.27	
Creamery, good to fancy	.24	@26
Dairy, extras	.22	@23
Dairy, choice	.19	21
Store	.18	@19

Eggs and Poultry.

The market for eggs has been easier all the week, closing yesterday as follows:

EGGS—Per doz:

Ranch, selected large	.40	
Ranch, good to choice	.35	37½
Store	.30	@32½
California storage	.28	@32½
Eastern	.25	@30

Poultry showed a firm demand this week owing to the approach of the holidays.

POULTRY—Old Roosters, per doz., $4.50@5.50; young Roosters, $5@6; Fryers, $4@4.50; Broilers, large, $4@4.50; small, $3@3.50; Hens, small, $4.50@5.50; large, $6@7; Ducks, per doz., old, $5.50@6.50; young, $6.50@7.50; Live Turkeys, per lb., 20@22c; Dressed Turkeys, per lb., 21@24c; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1@1.25; Squabs, $2@2.25.

Fruits and Vegetables.

Since the beginning of the week general trading in Fruits has been of fair volume, and some good-sized transactions in top-quality offerings have been closed at full quotations. Wednesday's business in citrus fruits was moderately active in most lines, and the appearing prices were maintained with a marked degree of steadiness.

DECIDUOUS FRUITS.—Apples, per box, common, 40@65c; choice to fancy, 75@$1; extras, $1.25@1.50; Spitzenbergs, $1.75@2; Lady apples, $1.25@2.

Pears—Per box, Winter Nellis, $1.50@2.

Persimmons—Per box, 50c@$1.

Quinces—Per box, 40@50c.

Table Grapes—Per small box, 50@65c; crate, 90@$1; large box, $1@1.50.

BERRIES—Per chest: Strawberries, Longworth, $8@12; large varieties, $3@4, as to quality; raspberries, $5@7; cranberries, per bbl., Eastern, $12@13; Oregon, per box, $2.50@$3.50.

The market was fairly active this week, although prices ruled about as last week.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.75@2.50; choice, $1.25@1.75; Standard, 85c@$1.25; Seedlings, 75c@$1; Lemons, $1@2; Extra, $2.50; Grape Fruit, $1.75@3; Tangerines, $1@1.50; Japanese Mandarins, $1@1.50; Limes, $4@4.50.

Operators reported a decided improvement in the demand for Potatoes yesterday, but values, although firmer, were no higher, as current supplies were liberal and fully up to trade wants.

POTATOES—Per ctl: River Burbanks, 75c@85c; Early Rose, nominal; River Reds, 60@75c; Salinas Burbanks, $1.25@1.45; Oregon Burbanks, 85c@$1.05; Sweet Potatoes, $1.@1.15.

VEGETABLES—Tomatoes, per box, Bay, nominal; do, southern, per crate, $1@1.25; Green Peppers, per lb., 6@8c; Dried Peppers, Stockton, 5@8c; Southern, 11@12c; String Beans, per lb., 8@10c; Wax, 10@12½c; Green Peas, per lb., 4@6c; Egg Plant, per lb., 12½@15c; Summer Squash, per box, $1@1.25; Cucumbers, hothouse, per doz., $2.50; Mushrooms, per lb., 15@25c; Garlic, per lb., 6@7c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash, jobbing at ½@¾c per lb.

Dried Fruits, Nuts, Etc.

A European inquiry for Apricots, says the San Francisco Chronicle, which are very scarce, is the only interesting feature at present in the Dried Fruit market. Otherwise the trade is of tame appearance, with prices more or less nominal. The scant supplies of Apricots are making it difficult for the foreign buyers to close deals, although their bids are close in the neighborhood of present asking rates.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 4½@6c; Sun Dried, 3¼@4c.

Apricots—Royal, fancy, 9@10c, choice, 7½c@8½c; Moorparks, choice, 9½@12c.

Peaches—Choice, 5¼@6c; fancy, 6¼@7c; peeled, in bxs, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9c.

Plums—Pitted, 6¾9c; unpitted, 1@1½c

Prunes—Four sizes, 60s to 100s, 2¾@3c for Santa Clara; other sections, ¼@½c less

Nectarines—White, 4@5½c.

Beans.

DRIED PEAS—Prices, per ctl: Green, $2.50; Niles, $2.75.

The price for new crop is 19@22c per lb., according to quality.

The market for all Beans has doubtless settled down to a quiet state for the remainder of the year. The volume of business is very small, but the light supplies offering cause a

steady tone.

BEANS—Price per ctl: Large Whites, $2.40 @2.65; small do, $2.90@3.10; Pea, $3@3.10; Lima, $3.10@3.15; Red, $3@3.15; Pink, $2.60@ 2.75; Bayo, $2.25@2.45; Blackeyes, 2@2.15; Red Kidneys, $4.25@4.50.

Live Stock.

CATTLE—No 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6¼@7c; No. 1 Cows and Heifers, 6½c, second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5⅜@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¼c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13.50@16.50; Wheat and Oat, $13@15.50; Oat, $11@15; Barley, 9.50@13; Clover, $10.50@11.50; Alfalfa, $9.50@11.50; Stock, $8.50@10.

FEED CORN MEAL—Choice grades, per ton, $28.50@$29.

MIDDLINGS—Per ton, $26.50@28.

BRAN—Per ton, $19.50.

OILCAKE MEAL—In lots of 20 tons, $26 per ton; 10 tons, $26.50; 5 tons, $27; less quantity, $27.50. Prices are mill rates and are subject to change without notice.

BRAN—Per ton, $21@22.

FEED CORN MEAL—Choice grades, per ton, $29.50@30.50.

BRAN—Per ton, $19.50@20.

COCOANUT CAKE—In lots of ten tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@ 4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.35@ $1.37½; white milling, good to choice, $1.40@ $1.50.

BARLEY—Choice No. 1 feed, $1.11¼@$1.15; off grades, $107½@108¾; brewing, No. 1, $1.17½@$1.22¼; Chevalier, $1.30@1.45.

CRACKED CORN—Choice quality, per ton, $29@$30.

OATS—Good to choice white, $1.22@1.35.

Hops.

The price for new crop is 18@22c per lb., according to quality.

WOOL.

Fall clip, per lb: California Plains, 6@ 8c; Foothills, 8@10c; Middle Country, 10c@ 12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

Chicago, December 23.

Interest lags in the wheat pit, as trade assumes the dullness of the holidays Cash quotations yesterday were as follows: Flour was dull and easy; No. 2 spring wheat, 78@83; No. 3, 80; No. 2 red, 82½@86; No. 2 corn, 41¾; No. 2 yellow, 43½; No. 2 oats, 37; No. 3 white, 34¾@37¾; No. 2 rye, 52½; good feeding barley 35@36½; fair to choice malting, 43@52; No. 1 flax seed, 93; prime timothy seed, 2.90; mess pork, per bbl., 11.75@11.87½; lard, per 100 lbs., 6.45@6.50; short ribs, sides (loose), 6.00@ 6.25; clover, contract grade, 11.25.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	25,800	6,900
Wheat, bushels	72,200	18,400
Corn, "	47,200	72,500
Oats "	177,600	101,600
Rye, "	1,900	11,600
Barley "	70,300	16,900

Chicago Live Stock.

CHICAGO, Dec. 23.—Cattle—Receipts, 4000, steady; good to prime steers, 4.90@5.75; poor to medium, 3.25@4.80; stockers and feeders, 2.00@4.00; cows, 1.50@3.50; heifers, 2.00@4.75; canners, 1.50@2.20; bulls, 1.75@4.25; calves, 2.00@5.75. Hogs—Receipts, today, 25,000; tomorrow, 35,000; strong; mixed and butchers, 4.35@4.60; good to choice heavy, 4.45@4.55; rough heavy, 4.30@4.45; light, 4.15@4.20; bulk of sales, 4.35@4.50. Sheep—Receipts, 14,000; sheep and lambs steady; good to choice wethers, 3.50@4.00; fair to choice mixed, 2.75@ 3.50; western sheep, 2.75@4.00; native lambs, 4.00@5.85; western lambs, 3.75@5.40.

California Dried Fruits.

NEW YORK, Dec. 23.—The market for evaporated apples is firm, with demand good; common are quoted at 4@5; prime, 5¾@6½; choice, 6@6½, and fancy, 7. Prunes are firm at 3⅝@6½, according to grade. Apricots quiet; choice, 9½; extra choice, 9¾@10¼; fancy, 11@15. Peaches steady; choice, 7¼@7¾; extra choice, 7¾@8¼; fancy, 9¼@10¼.

CITRUS MARKETS

THE ORANGE MARKET.

The market has been quite active during the past week, jobbers supplying themselves with Christmas stock, for which the supplies in sight seem ample, and there is an overstock of large sizes of which but few can be used at the smaller western points. Quite a number of cars will be left over. Southern stock is quite closely cleaned up, and there is some demand for shipment from this section.

Auction markets have sold at low averages; nearly all, however, being 126s and larger in Navels. Some Seedlings have been selling fairly well at these points, while it is very difficult to dispose of any of these in the west.

THE LEMON MARKET.

The Lemon market shows no improvement from its demoralized condition, and the prospects are not favorable for any change for the better. Lighter shipments are going out, however, which may make the average results on what is shipped more satisfactory. Off size and standard stock will not bring over cost of packing and shipping.

AUCTIONS.

NEW YORK, DEC. 17.

C. C. U. Porterville Mariposa navels $2.05, Mistletoe navels $1.75.

C. C. U. Lindsay Hollywreath navels $1.95.

PHILADELPHIA, DEC. 17.

C. C. U. Lindsay Holly navels $2.20.

T. C. Zante Forgetmenot navels $2.00.

NEW ORLEANS, DEC. 17.

T. C. Porterville Oakleaf seedlings $1.80, fruit partly green.

CLEVELAND, DEC. 17.

C. C. U. Lindsay Holly navels $3.10.

NEW YORK, DEC. 18.

S. S. Orange, S. S. navels $2.75.

T. C. Exeter, Affection navels $2.00.

PHILADELPHIA, DEC. 18.

C. C. U. Oroville Yule-tide navels $2.50.

C. C. U. Oroville Yule-tide navels $2.50.

BOSTON, DEC. 18.

S. S. Orange, S. S. navels $2.35.

C. C. U. Lindsay Holly navels $2.00.

PHILADELPHIA, DEC. 18.

C. C. U. Redlands, Camellia navels $3.05.

T. C. Lindsay State navels $2.65, Capitol $1.40, Tangerines, ½ boxes $2.25.

T. C. Lindsay State navels $2.00, Capitol $1.65, Tangerines, ½ boxes, $1.45.

T. C. Zante, Forgetmenot $1.65, Oakleaf navels $1.90, Oakleaf lemons $1.05. Fruit was green and frozen.

CLEVELAND, DEC. 18.

C. C. U. Redlands Lion Head navels $2.15.

T. C. Porterville, Forgetmenot navels $2.15, Oakleaf navels $1.75, half green and coarse.

T. C. Porterville, Forgetmenot navels $1.75, Oakleaf navels $1.80, fruit green.

S. T. La Manda, Fame 2.80, Trail $2.30, Canyon $2.50.

NEW ORLEANS, DEC. 18.

C. C. U. Porterville Lily navels $2.40, Monarch navels $2.30, Covina navels $1.65.

C. C. U. Hearst Spur, $1.75.

NEW YORK, DEC. 21.

C. C. U. Exeter Mariposa navels $3.50, Sunflower $2.85, Mistletoe $1.85.

T. C. Lindsay, State navels $1.90, Capitol $1.60.

C. C. U. Oroville Yule-tide navels $2.65.

A. C. G. Azusa, Pointer navels $2.05.

T. C. Porterville, Forgetmenot navels $2.00, Oakleaf navels $1.50.

C. C. U. Exeter, Sunflower navels $2.50, Marguerite $1.40, Protection $1.90, Buckeye lemons $1.55.

BOSTON, DEC. 21.

C. C. U. Highlands, Highland navels $2.30.

PITTSBURG, DEC. 21.

C. C. U. Exeter, Lily navels $2.50.

C. C. U. Exeter, Monarch navels $2.35.

T. C. Lindsay, Mt. Hamilton navels $1.80, ½ boxes Tangerines 90c, low on account of greenness of fruit.

T. C. Sanger, Finest-of-all navels $2.80, Prosperity $2.40, Finest-of-all $2.55, Prosperity seedlings $1.90, Prosperity lemons $1.55.

T. C. Zante, Forgetmenot navels, $1.50 Oakleaf $1.40, fruit green.

T. C. Porterville Forgetmenot navels, $1.70, Oakleaf navels $1.50, low on account of greenness of fruit.

C. C. U. Redlands, Camilla navels, $3.30.

CINCINNATI, DEC. 21.

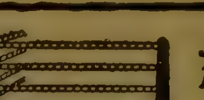
T. C. Porterville navels $1.95, Oakleaf navels $1.50, fruit partly green.

C. C. U. Windemere lemons $2.00.

La Mirada $1.65, 7% decay on account of frozen fruit.

Total to date this season 1105 cars, of which 280 cars were lemons.

Total to date last season 1572 cars, of which 324 cars were lemons.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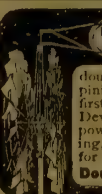

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Coulson's Food for Calve...

A special compound of food stuffs to be mixed with the milk, for

PREVENTING THE SCOURS

and an aid in fattening for the market. Promotes the growth of calves, as it is a great flesh producer. It prevents the scours and keeps Calves in good, healthy condition.

Directions for Feeding Calves.

Commence with small amount first, say about a handful, put in a pail—pour over it a little hot water to scald it (use scalding hot water to pour over it so as to kind of cook the starches in the food) then pour in the milk or skim milk. As the calf grows older you can feed more of this food, and instead of using a handful use a pint or a quart of the food with skim milk.

Coulson's Food for Calves is not only a developer, muscle and bone builder, but it is also an appetizer.

By the addition of Coulson's Food for Calves to the skim milk or milk, it is made more palatable and the calves will eat it readily and greedily.

Keep your calves in A1 growing condition by using Coulson's Food for Calves. It regulates the bowels and stomach and keeps the digestive organs in good shape so that they can do the work properly and the calves will grow and put on flesh rapidly.

Price 90-lb. Sack, $2.50; 50 pounds, $1.50; a small amount, 4 cents a pound.

Its cost is small, as it only takes a little of it for a feed. Prepared by

A. R. Coulson Co., Inc.,
Factory: First and E St. and 772-774 Main St., Petaluma, Cal.

THE FEEDING PROBLEM

STUFFING AND STARVING

SCHOONERS BRINGING FEED TO PETALUMA, WHERE COULSON'S EGG FOOD IS MADE.

When hens do not lay at all or do not lay well, many owners think that if the hens look well, are rosy, plump and fat, it is an indication that the hens surely receive ample supplies of food. But in this they are mistaken, although they may stuff their hens with soft feed, wheat and corn and the hens may be fat and heavy as lead and yet they are actually starving for lack of protein and minerals, etc., that they need more of than they can get.

They are expected to lay eggs when they are not fed the material that makes eggs. When hens are fed on wheat, corn, middlings, etc., food that contains one part protein or muscle-forming food and nine parts of carbohydrates and fat, they will gradually get too fat to lay because all the protein they receive in the food is needed for their body sustainance and there is nothing left for eggs, except excesses of other nutriments which she cannot use for body maintenance, will not alone make eggs and can only be stored as layers of fat where they are less than useless. Instances are common where fowls receive more than sufficient food but it is so badly balanced that they lay few or no eggs.

Feeding is not everything in poultry keeping, but it is one of the most important ways of getting results.

Proper feeding of Coulson's Egg food, besides making hens lay will also help to produce Plumage that will make the fowl indifferent to cold or rain. Coulson's Egg Food is designed to give the laying fowls just what they are kept for—eggs.

This Food contains in adequate quantity eevrything that is necessary to make perfect eggs which will permit of perfect development of chicks while in the egg. Therefore, if you want eggs that will be hatchable and hatch good strong chicks, you should feed Coulson's Egg Food, a complete balanced ration for laying hens.

The egg is the surplus which the hen throws off after all the needs of her system have been supplied, the excess over and above what she needs to repair waste and keep her in perfect health.

Unless a hen is supplied with material for egg production she cannot lay. She can no more produce egg without the proper food than a factory can turn out a finished product without raw material.

FEEDING FOR EGGS

A hen generally consumes from six to eight ounces of feed a day. If she is fed on shorts, or common chop feed, she will have to eat from one to three lbs. before she gets enough material to produce an egg, besides supplying her bodily needs, and as it will take from three to five days for a hen to consume that much food, she will be able to lay only one egg every four days' time.

Now, if this same hen should be fed on a rich egg producing food, like Coulson's Egg Food, she would have to eat only eight ounces to give her enough material to form the egg and supply her bodily needs, besides; so it can readily be seen that if a hen be fed on Coulson's Egg Food two meals a day she will be able to lay an egg nearly every day.

The men who get results in egg production are the men who pay great attention to feeding, and feeding egg producing food—Coulson's Egg Food.

It is a wholesome and safe food, contains nothing injurious. A correctly balanced ration; a scientific poultry food, prepared by people who know how. It is not an experiment. It is successfully used by hundreds of the most successful poultrymen and recommended highly. Fed as a warm mash either morning, noon or evening. Saves bother in mixing; your time is your money. Produces excellent results by natural methods. Price reasonable—cheapest feed on the market, for it gives best results. Goes twice as far as ordinary feed; increases egg production, furnishes bone, muscle, feathers and meat and helps fowls to grow. Pullets begin laying earlier. Shortens moulting period. You can have eggs in winter when eggs are profitable. It is just the feed that all poultrymen are looking for—a feed that makes hens lay nearly every day.

One hundred and seventy-five eggs per year per hen by feeding Coulson's Balanced Egg Food.

Are you feeding your hens this feed? If you are not, you are making a great mistake. Coulsons prepared food for laying hens is just what your hens need and they must have it if you expect them to lay many eggs at this time of year. There is in this egg food everything necessary to help the hen grow the eggs.

D. H. Ward of Cotati, says: "I have fed Coulson's Egg Food for over a year and I am well satisfied with it. I am now getting 90 dozen eggs a week from 500 hens. My hens laid well last winter on this food and I shall continue to feed it this winter."

Others try to economize by feeding a cheaper feed but they make a great mistake.

Price of Coulson's Egg Food at the Factory, we do not pay freight: One sack, $1.65; 5 sacks, $7.75; ½ ton, 11 sacks, $16.50; 1 ton, 22 sacks, $33.00. We place on cars free of charge.

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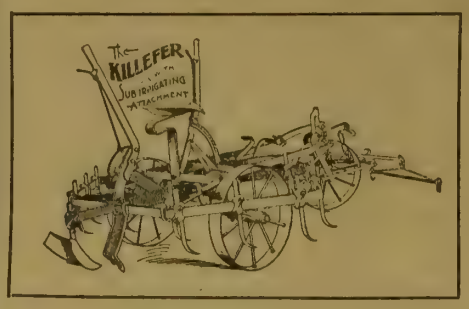

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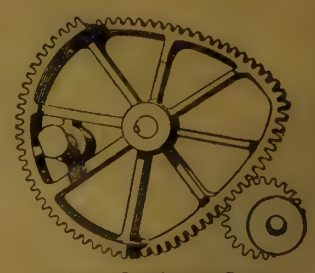
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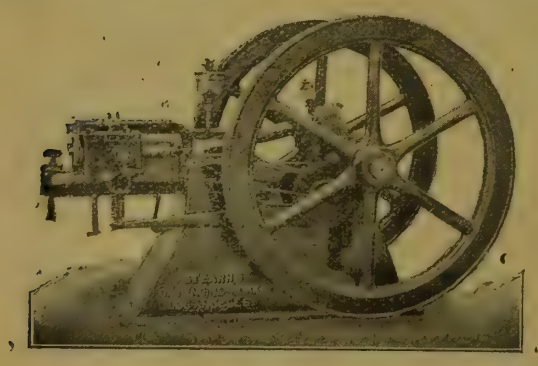

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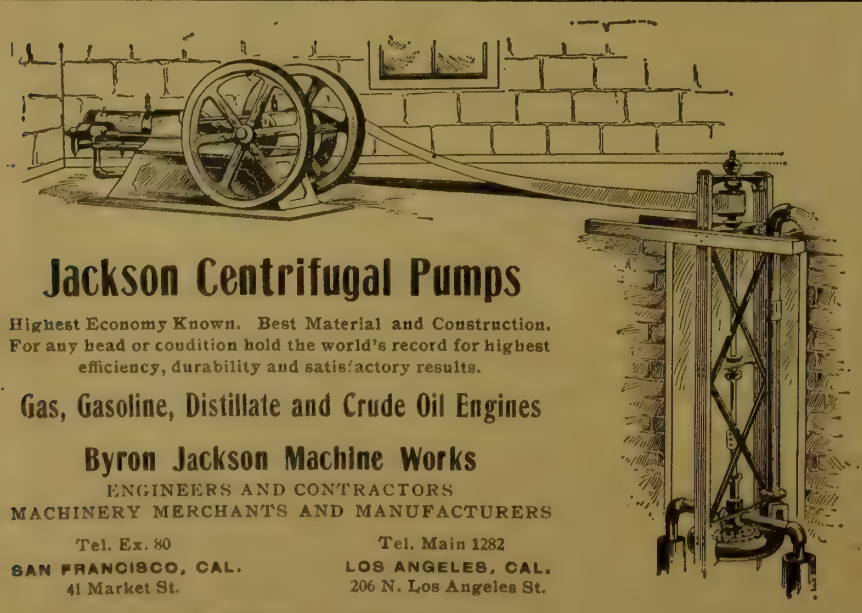

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